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American Railroad Journal.

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Saturday, April 26, 1851.

For the American Railroad Journal.

Philadelphia and Norristown, Norristown and Lambertsville Railroads--Williamsport and Elmira Railroad, connecting Philadelphia with New York and Erie Railroad at Elmira, compared with another route to connect Philadelphia with the New York and Erie Railroad, etc.

Having noticed recently in your very excellent Journal that a railroad was in serious contemplation, and in the New York Tribune money article of the 9th inst., that it was now being pushed forward from Norristown via Doylestown to Lambertsville, New Jersey, where it is to connect with the Trenton and Belvidere railroad, which latter road is now in operation from Lambertsville to Trenton, and that it is proposed to extend the line to Somerville, where it will intersect the New Jersey railroad, making the distance by this route 103 miles from New York to Philadelphia, by which passengers can be carried for two dollars in about four and a half hours, and that by this proposed line, Pottsville will be some 40 miles nearer to New York than by any other route, and when completed, coal can be taken from Pottsville to New York cheaper perhaps than by any other route.

And also in your Journal of the 5th inst. under the head "*Pennsylvania Railroad Route by Sunbury and Erie*," by which it appears that Mr. Walker, of the State Senate, has submitted a report in regard to the propriety of connecting, by a continuous line of railroad, the city of Philadelphia with Elmira on the line of the New York and Erie railroad, accompanied by important communications relative thereto from G. A. Nicolls, Esq., Superintentendent of the Philadelphia and Reading railroad.

I propose to examine the foregoing as briefly as possible, and state some matters which may be of interest to the public generally, and suggest some changes which may strike the parties more immediately connected with the projects alluded to, as worthy of consideration before final locations are settled upon; the changes, however, more particularly apply to the Norristown railroad extension.

From the communications of Mr. Nicolls, alluded to, it would appear that there are several routes, either one of which is favorable and practicable to connect Philadelphia with the New York and Erie railroad at Elmira, in the State of New York, the shortest of which makes the distance between the two points 265 miles, and 18 miles less distance from Elmira to Philadelphia than from Elmira to New York, and requiring only some one and a quarter millions of dollars to make the connections between railroads now in operation to complete the chain.

From this it would appear natural for passengers in Western New York, Canada, etc., who may take the Erie railroad at Dunkirk, or reach the road at any intermediate point between Dunkirk and Elmira, and who wish to travel to Philadelphia, Baltimore, Washington and south, to leave the Erie road at Elmira, and thus save the time and expense of more than 100 miles extra travel over the route via New York city and across N. Jersey to Philadelphia—this looks reasonable.

The writer has before him a pamphlet entitled "The charter of the Williamsport and Elmira railroad company, with the several Acts of Assembly, etc.," "together with a message of the Governor of Pennsylvania, and also containing a survey made in 1833 by Major Hartman Bache." And also a report of T. E. Sickels, Esq., engineer, published at Lancaster in 1850; for particular information therein contained, I beg to refer those interested to the pamphlet reports—but will make the following extract from Mr. Sickels' report:—

"A statement of the comparative distances by way of existing routes, and the route to be opened by the Williamsport and Elmira railroad between places having large intermediate travel, is as follows:—

From Geneva to Baltimore via New York to Philadelphia.....	535 miles.
From Geneva to Baltimore via Williamsport and Elmira railroad....	319 "
Difference in favor of route by Williamsport.....	216 "
From Utica to Baltimore via New York.....	427 "
From Utica to Baltimore via Williamsport and Elmira railroad....	427 "
From Elmira to New York via New York and Erie railroad.....	283 "
From Elmira to Philadelphia via Williamsport and Elmira railroad.	279 "
From Elmira to Baltimore via Williamsport and Elmira railroad....	257 "

"Between Geneva and Baltimore, which are points common to both lines from Western New York to Washington, the distance at present traversed over is greater by two hundred and sixteen miles than by the route passing through Williamsport."

"Considering the direct economy of money, and the not less important economy of time, which would attract to the Williamsport and Elmira railroad, the great through passenger business from Western New York, the lakes and Niagara Falls to Washington and the Southern Atlantic States, it cannot be considered as claiming too much for this railroad to rank it among the most important projects in this country."

"The railroads now in operation, and those being constructed on this line, are not excelled for ease and comfort to travellers; and to the advantage already stated as favoring the route via Williamsport and Elmira railroad, which may be assumed equal to five dollars in money and ten hours in time for each passenger, there may be added unsurpassed comfort in travelling, and a transit thro' a region of country of the most attractive character.

"From Utica to Baltimore the distance is the same via the Hudson river or via Williamsport.—The southern travel, therefore, from between Utica and Geneva is due to the Williamsport and Elmira railroad in addition to that of the region west of the latter place."

It will be seen by this extract, that it is expected and believed that after the completion of the Williamsport and Elmira railroad, and such other links as may be necessary to form a continuous line to Philadelphia, that it will attract and divert the travel from Western New York, the lakes and Niagara Falls, to Philadelphia and the south.

And it will also be observed that the distance given by Mr. Sickels from Elmira to Philadelphia by the present route is 279 miles.

Let us see how this can be improved.

It is known, [but not very extensively,] that the Ligett's Gap railroad, which will connect the village of Scranton, in the Lackawanna coal valley with the New York and Erie railroad at Great Bend, is now being built, and near its completion, the track is now being laid, Erie gauge, the line and grades favorable, and the road is being constructed in the best manner. The leading business of this road will be to supply Western New York, the Canadas, and the steamers on the lakes with anthracite coal; it will also afford valuable and cheap facilities for supplying the north and west with iron from this section of Pennsylvania.

Scranton is the seat of very extensive, and perhaps one of the most interesting iron works in our country. It contains now between 2,000 and 3,000 inhabitants—the company owning the town and the works, connected with which they have several thousand acres of the finest located coal and iron lands, are largely interested in the Ligett's Gap railroad, and they are also interested in the Cayuga and Susquehanna railroad, in New York, which road connects Owego, on the Erie railroad, with Cayuga Lake, at Ithaca. The latter place is connected by a line of steamers with the Central railroad through New York; the distance between Owego and Great Bend via Erie road is 36 miles.

I understand a contract has been made between these companies and the Erie railroad company to transport their coal and other merchandise in the cars of the Ligett's Gap company, between Great Bend and the Cayuga and Susquehanna railroad at Owego, and also other points along the line of the Erie railroad, their roads being all the same gauge.

The same parties interested in the Cayuga and Susquehanna and Ligetts Gap railroads, with the addition of some of their friends, subscribed recently for the entire stock of the Delaware and Cobb's Gap railroad, which is to connect the Ligetts Gap railroad at Scranton with the Morris and Essex, New Jersey Central, and Trenton and Belvidere railroads at some point at or near Belvidere, New Jersey. From the acquaintance I have with the managers of the Iron Works at Scranton, and the character, ability and reputation of all the gentlemen interested with them, I am warranted in saying that there is not a doubt but that the Delaware and Cobb's Gap railroad will be commenced and completed at an early day; this being so it ensures the extension of the Morris and Essex road from Dover to Belvidere, about 30 miles, and a branch from the New Jersey Central, from New Hampton to Belvidere, about 13 miles, the extension of the Trenton and Belvidere road from Lambertsville to Belvidere, about 45 miles.

The change I would propose for the interest of the city of Philadelphia and the Norristown railroad, would be to run their proposed extension from Norristown to a point ten miles below Easton at Johnson's or Durham's Ferry, which would not lengthen their line, in order to reach the Trenton and Belvidere railroad more than about four miles over the route to Lambertsville, and they would thus strike this latter road at a point about 22 miles higher up the Delaware, and make a saving of 20 miles in distance between Belvidere or Easton and Philadelphia, over the route via Trenton to Philadelphia, and if they wished to connect with the New Jersey Central before reaching Easton, (their terminus) a short branch can be constructed from Reiglesville to near Asbury, New Jersey, about ten miles, and thus save about twelve miles over the route via Easton, and not make the distance between New York and Philadelphia by this route over about eleven miles further than by the now proposed route from Lambertsville to Somerville, by which the passengers alluded to can still be carried for two dollars in about four and a half hours from New York to Philadelphia.

The country from Johnson's Ferry to Norristown is very fine and productive, and feasible for a railroad.

By an examination of the map it will be seen the Delaware river makes at Johnson's or Durham's Ferry a great detour to the left in running towards Trenton, and then to the right in reaching Philadelphia; place a rule on the map between this Ferry and Philadelphia via Norristown, and it will show a very direct line, and cut off more than twenty miles over the route via Trenton to Philadelphia.

With this proposed change the matter would stand thus:

From Elmira to Ligett's Gap railroad at Great Bend is	72	miles.
" Great Bend to Scranton is	47½	"
" Scranton to Delaware Water Gap is	46	"
" Delaware Water Gap to Belvidere is	13	"
" Belvidere to Easton is	12	"
" Easton to Johnson's or Durham's Ferry is	10	"
" Johnson's Ferry to Norristown is	31	"
" Norristown to Philadelphia	17	"
	248½	miles.

Which is a saving of 30½ miles over the Williamsport and Elmira routes. The distances here given are known to be correct, except the Delaware and Cobb's Gap, to which I have added one mile more than the company expect to find it. It is believed that the railroad will not exceed in length the present travelled road, which is 45 miles.

The idea of carrying coal from the mines in the vicinity of Pottsville via Reading railroad to Norristown, and from thence to Lambertsville and across New Jersey to New York or Elizabethtown Point, (after the completion of the Delaware and Cobb's Gap and Central railroads) as shadowed forth in the Tribune article, is preposterous; the distance from the Pottsville mines to Elizabethtown Point by this route would be about 158 miles. The distance from the Lackawanna mines via Cobb's Gap and New Jersey Central to same point, will be about 125 miles, with at least equally favorable grades; and the coal miners, operators or dealers can make as much money in selling and delivering coal into cars at their mines in the Lackawanna at seventy-five cents per ton as the operators and dealers in the Schuylkill can at one dollar and fifty cents per ton; here is a difference of seventy-five cents per ton to start with, and about thirty miles less distance to transport it to the same point.

The prices paid for mining in the Lackawanna and Wyoming vallies rang from 35 cents to 45 cents per ton—the miner finding his own tools, powder, and oil. The coal veins are easy of access, and entered mostly from the Lackawanna river or from streams or rivers running across the valley, by horizontal gangways or drivings: the road ways thus forming the drain, consequently the outlay of capital and the expense of deep vertical shafts or slopes requiring steam or water power to free the mines from water and raise the coal to the surface, is avoided.

I am informed that the Delaware and Hudson company do not use a steam engine in all their large mining operations at Carbondale.

At the iron works at Scranton a year since, I learned that they were consuming from 150 to 175 tons of coal per day, which was mined and delivered at the furnaces and rolling mills by contract for fifty three cents per ton all told.

Any one familiar with the mining operations of the Lackawanna and Schuylkill regions, will readily grant a large difference in the cost of delivering coal into cars in favor of the former; the Schuylkill region is well off, and always will be, with a perpetual market at the south which belongs to her; Lackawanna seeks New York, and the eastern and northern market—this belongs to her; coal delivered at Elizabethtown Point is virtually in New York.

If coal can be carried on the Reading railroad for one and a half cents per ton per mile, it can be done on other roads with equally good grades, and with coal in the cars at the Lackawanna mines at 75 cents per ton, and with 125 miles of railroad to pass over at a cost of 1½ cents per ton per mile, the actual cost of the article on the sea board, any one who has sufficient curiosity can figure out.

I have made this digression with no other motive than to do simple justice and correct any erroneous impressions which the article in the Tribune, or others similar, might unintentionally create.

The idea of extending the Norristown railroad to Johnson's Ferry, and connecting there with the Trenton and Belvidere road, has had a place in my mind long before I ever heard it suggested, and I had intended to have brought it to the notice of those interested (provided no one else did) at the proper time, which I supposed would be when the Delaware and Cobb's Gap road was commenced: but it appears that the Norristown railroad company are about preparing to extend their road to Lambertsville, hence I take the liberty now to show whatever of importance there may be by the proposed change, both to the city of Philadelphia and the Norristown railroad.

Time and money seem to be uppermost in the minds of the travelling world, and if it is reasonable to suppose passengers destined south, would leave the Erie road at Elmira, for Philadelphia, etc., via Williamsport and Elmira route, to save time and money, then the same reasons would apply to those passengers with increased force, for continuing on the Erie railroad 72 miles further down to Great Bend, and thereby gain a further saving, as hereby shown, of 30½ miles, or one and a half hour's time and a half dollar or more expenses.

It will be observed that in running down this distance of 72 miles from Elmira, a large extent of country (perhaps the finest part of the State of New York) is swept, to gather additional trade and travel before diverging from the Erie railroad. At

Owego, 36 miles from Elmira, we pass the Cayuga and Susquehanna railroad, forming a line of 70 miles railroad and steamboat communication to connect with the Northern railroad.

A company is now formed and means being provided, to build a road from Syracuse to Binghamton, a distance of about 70 miles: very little doubt is entertained in regard to the early completion of this road, which when done will form a continuous line of railroad between Binghamton and Oswego on Lake Ontario.

Another project has recently been brought to notice: to connect Albany with Binghamton, or the Ligett's Gap railroad, at Great Bend—distance about 125 miles—country very feasible, and grade moderate; this project has many friends, among whom are a large number of very influential and wealthy gentlemen of Albany; it is believed that this road will be soon commenced and completed, if so, the Ligett's Gap railroad will be connected with a continuous line of railroad from Great Bend to Boston.

A charter has just been obtained for a railroad to connect Wilkesbarre with the Ligett's Gap railroad at Scranton, 17 miles, which is certain to be built; this road will bring out the trade and travel of the far-farmed Wyoming valley, and give them a nearer route to Philadelphia than any other that can ever be built.

At or near the Delaware Water Gap, this great line will be connected again with the New York and Erie railroad, 145 miles below Great Bend, with the Newburgh branch at Chester; distance from Chester to the Water Gap about 56 miles; the means are now being provided, with every assurance of success, and before this latter road is completed, Newburgh will be connected with the Midland railroad, from Fishkill to Hartford and Boston, and with the Trenton and Belvidere constructed to Johnson's Ferry, there to connect with the Norristown extension, it will be seen that Boston and Philadelphia would be connected by nearly an air line railroad.

It cannot be doubted that here are great and important projects now in progress of construction, and being provided for, every one of which is feasible and practical and quite certain to be completed; full of promise, as investments of more than ordinary interest; each one will have, in addition to their ordinary business, a large tonnage of coal from the great coal fields of the Lackawanna and Wyoming valleys.

Now, with these long lines of railroads, connecting the east, west and north, with this (middle line) Ligett's Gap, Delaware and Cobb's Gap, Belvidere and Trenton, etc., and the New Jersey roads herein alluded to, can it fail to strike the city of Philadelphia and the Norristown railroad interest, as being of the highest importance to change the point of connection from Lambertsville to Johnson's Ferry?

With the foregoing faintly described outline of great public improvements, and all matters of interest therewith connected—with the distances, etc., given, I leave the subject for the examination of those better able to judge of the importance or value of the suggestions.

A perfect railroad mania seems to have seized upon the people of the United States—projects are springing up almost daily all over the country, a vast amount of capital is being absorbed in constructing the various lines now building: when money to go on with cannot be raised on stock subscription, the roads are mortgaged, and if this is not sufficient, towns, counties and cities are mortgaged to raise means: the immense value of these roads to our country cannot be over estimated; but nevertheless we may go too fast; the greatest danger lies in constructing roads prematurely, that in times of great depression will not pay. No fear need be apprehended in constructing *sure* paying roads. Such (in the opinion of those best competent to judge) will be the Ligett's Gap, Delaware and Cobb's Gap, and lines connecting therewith herein alluded to; they are mostly old and long contemplated projects, and nearly all partly built, and all depending more or less on a coal trade, which is the surest and most reliable basis for a safe investment of capital in railroads that can be presented; the coal trade must continue to increase in pro rata proportion, at least, with the increase of the population of our country forever.

As projects for public improvement are brought forward, let common sense and prudence decide whether they will yet pay, for if they are not sure to pay in hard times, had they not better be deferred until the business to be done will ensure success.

If our government would allow the iron for these roads to be made in our own country, whereby our people could have the advantage of trade and *dicker* among themselves, we could thus save our specie, and go on faster and safer, but under the present state of things our only safety seems to be in the amount of production from the mines of California; how long this will sustain our present rapid movements, the future only will demonstrate.

PENNSYLVANIA.

Mississippi and Ohio Railroad.

On Monday the 31st ult., the City Council of St. Louis unanimously passed an ordinance for subscribing $500,000 to the above named road. The act of the Legislature, authorizing the city to subscribe, specifies the road as commencing at Illinois town, on the Mississippi river, and running thence to the east line of the State of Illinois, in the direction of the city of Vincennes.

In connection with the above the Vincennes Gazette states that Mr. Gest with a corps of engineers "have been for some days past, here and in this vicinity, examining the route of the Ohio and Mississippi Railroad. We understand that they will continue the survey westward to St. Louis.

The route from Cincinnati to the Wabash, is reported to present fewer obstacles, and to combine greater advantages, than the most sanguine friends of the enterprise had anticipated. The citizens all along the line, express a determination to aid the enterprise to the utmost of their ability.

The organization of the Western Branch meets with universal approbation, and the company seem to have made a most happy selection of officers. The city of St. Louis has subscribed her half million of stock, and we suppose the work will be prosecuted with all possible speed.

Virginia.

The North Western Railroad.—We are indebted to a member of the Virginia Legislature—which body adjourned *sine die* on Monday—for the annexed copy of the law passed at the recent session, incorporating the North Western railroad company. This law, it will be seen, authorizes the construction of a railroad from a point on the Baltimore and Ohio railroad at or near Three Forks, in Taylor county, to the town of Parkersburg, on the Ohio river. It was enacted at the instance of that portion of the people of Virginia residing in the counties through which the road is expected to run, and in order to afford them the benefits of an easy and rapid intercourse with the seaboard and the Ohio river, from both of which they were debarred by the legislation which restricted the Baltimore road, exclusively to Wheeling as its western terminus. The charter covers the whole ground of the 'right of way,' which in years gone by was so earnestly prayed for by the Baltimore company, and so steadily refused by the Virginia Legislature. We take it for granted, now that this important chartered privilege has been secured, that the people of Virginia will adopt prompt and decided measures to give the act vitality, and the great enterprise which it is designed to create, an early and sure impetus to completion. The line of road comprehends a prominent link in the chain of the great 'bee line' railroad; which, commencing at Baltimore, will run through Parkersburgh, Belpre, Chillicothe, Cincinnati and Vincennes, to St. Louis. It will form the shortest and quickest route between Baltimore, Cincinnati and St. Louis, and will command the travel and trade of the West to its utmost capacity.—*Baltimore American.*

Erie Canal.

We give below a portion of the late annual report of the State Engineer on the New York canals, which possesses an uncommon interest in connection with the question of the enlargement, now the engrossing topic in this State. The report is got up in the best style, and is illustrated by plans of the routes, and profiles of the various divisions of the Erie canal, and gives in a perspicuous form, a view of the present condition of this great work, the progress that has been made in the work of enlargement; and as it was well known that the subject of the enlargement would be the leading topic for the consideration of our legislature at its last session, a large portion of the report is taken up with a discussion of the utility of the proposed measure. As Mr. Seymour is an engineer of the most acknowledged ability, and as his views are known to possess great weight where he is known; and as his report may be taken as presenting the strongest evidence that exists in favor of the proposed enlargement, we have given the better part of it. The subject of this discussion is a most interesting one in every point of view, not only in reference to the relative and absolute capacities of the canal and railroads for cheap transportation, but from the intimate connection of the former with the public works, and the general interests, of the whole country,

The Erie canal has contributed vastly more toward the progress and wealth of this country than any other work having a similar object. Over it passes annually produce and merchandise of the value of $150,000,000. Up to the present year it has been the only practicable route for the transit of these immense values. So strikingly is its importance and utility felt by every person, that we all look upon it as an integral part of our greatness, equally with the Mississippi river and the great lakes. Without it our condition as a nation would have been a very different one, and our absolute greatness at home, and our relative importance in comparison with other nations would have been much less flattering to our vanity.—Through this channel, a very large proportion of our people obtain many of the most important articles of food, and in return it is the great outlet for the products of our manufactures and commerce. It supplies no small part of what makes up the basis of our foreign commerce. It is the great artery in our system, through which circulates the life blood that gives health and strength to the whole.

To show what facilities the canal affords for cheap transportation, we would state, that railroad iron, for instance, can be transported from New

York to Toledo, Ohio, a distance of nearly 800 miles, for about one-half a cent per ton per mile, or a little over $4 per net ton. Contracts have been made in this city within a day or two, to deliver rails in Lafayette, Ia., for $6 90 per ton. Lafayette is 220 miles from Toledo. A very large amount of iron for the railroads in Ohio, Indiana, Illinois, Michigan and Wisconsin, will go by way of the Erie canal. This is fast becoming the favorite route; and we think that very little, if any, now ordered for the next year for the above States, will go by way of New Orleans. With the enlargement, almost the entire amount of the produce of the above States would take the same route to a market.

The report, after enumerating the great results which the canal has already achieved and the necessity of a further enlargement to meet the increased volume of business now thrown upon it, goes on to say:—

The commissioners, in their report of 1834, show that the full capacity of a lock, at that time, was equal to 20,000 lockages each season. After that the valves of gates were enlarged and increased so as to admit water as rapidly as the safety of boats would admit. By this means, and when everything is kept in good order, locks can pass 26,000 boats, and we will admit (what I believe will be often impossible) that double locks will pass 52,000 boats in one season. The capacity of boats, as now constructed, is for the canal 4 feet deep, 80 tons (see Mr. Olmstead's statement of comparative size of boats) and the average loads each way cannot exceed 50 tons, as the proportion of down is to up freight as 4 to 1. The average load of boats on the enlarged canal will be 224 tons, and the average loads both ways 140 tons, This datum determines the utmost capacity of the old canal with single locks to be 26,000 x 50, equal to a movement of 1,300,000 tons, and of the old canal with double locks to be 52,000 x 50, equal to 2,600,000 tons, and of the enlarged canal 52,000 x 140 is 7,280,000 tons. This estimate is, however, too large, by reason of the unequal amount of trade at different seasons of the year. By an examination of business done, it will be seen that had the locks not been doubled, the business of the year 1845 (only three years after they were doubled) could not have been accomplished.

The past year, the movement at the eastern end of the canal was 2,452,233 tons. The preceding calculation shows that the utmost capacity of the present canal is 2,600,000. It is no doubt true, therefore, that the full capacity of the canal is already reached, and a further increase of capacity is demanded by good policy. I have no doubt that if a demand be made for the taking and delivery at tide water of about the above quantity of 2,600,000 tons, it can be got through; but such a demand will certainly increase the rate of charges, and this increase will, as it did last fall, drive trade to other avenues. A further increase in the capacity of boats can now be made by strengthening them, as all the locks will be lengthened or enlarged next spring. The long boats will have a capacity of 60 tons average load, or of 96 tons maximum load. This will increase the capacity of the canal from 2,600,000 to 3,120,000 tons. This increase is obtained by an extra expense of about $24,000, by a temporary lengthening of 3 old locks which are to go out of use when the enlargement shall be completed, and of 5 others which, in the enlarged canal, will have other locations. Beyond this, no further increase in the capacity of the canal can take place until all the locks are enlarged, and considerable sums expended in making a larger channel. It is not true that boats of the enlarged size cannot float upon the canal until the whole enlarged size is obtained; a widening of the channel, partial in many places, and of the locks above named, would permit boats of the enlarged size to pass over the canal, loaded so as to draw as much water as boats now do. The enlarged boats drawing 3½ feet of water will have a capacity for 120 tons and may carry 75 tons average load both ways. This would again increase the capacity of the canal from 3,120,000 tons to 3,900,000 tons.—The necessity for this progressive enlargement is illustrated by the following statement of tonnage passing to and from tide water since 1836 up to the present year, and the estimated amounts to pass during the next 5 years:

Statement of tonnage from and to tide water, from 1836 to 1850, and estimated amounts during the next five years, with rate of increase.

	Going from tide water.	Arriving at tide water.	Total going from and arriving at tide water.
1836....	133,796	696,347	830,143
1837....	122,130	611,781	733,911
1838....	142,808	640,481	783,289
1839....	142,035	602,128	744,163
1840....	129,580	669,012	798,592
1841....	162,715	774,344	937,059
1842....	123,294	666,676	789,970
1843....	143,595	836,861	980,456
1844....	176,737	1,019,094	1,195,831
1845....	195,000	1,204,943	1,399,943
1846....	213,815	1,362,319	1,575,134
1847....	288,267	1,744,283	2,032,550
1848....	329,557	1,447,905	1,777,462
1849....	315,550	1,579,946	1,895,496
1850....	418,370	2,033,863	2,452,233
1851....	458,115	2,196,572	2,654,687
1852....	501,635	2,372,297	2,873,932
1853....	549,290	2,562,080	3,111,370
1854....	601,472	2,767,046	3,368,518
1855....	658,611	2,988,409	3,647,020

Rate of increase, going from tide water, 9½ per cent
" arriving at " 8 "

Note.—In order more fully to impress upon the mind the present magnitude of the canal trade, and the capacity of the canal when enlarged, let us imagine its business transferred to a railroad.

The tons arriving at tide water last year, were 2,033,863; all performed in the space of 226 days. A railroad operated six days in the week, will have 313 working days in a year. If the above business should be divided equally throughout the year, then the arrival at tide water would be 6,498 tons daily; average loads of 100 tons of freight per train, would require the arrival daily of 65 trains; equal to one train every twenty-two minutes throughout the twenty four hours. A railroad performing a large passenger and fast freight business, and having a double track with the usual turn-outs, could not I suppose, perform one-sixth of the above, as additional business, by slow trains, even admitting that the variations of trade at different seasons of the year could by increased loads, be accommodated by the number of trains stated. In other words, it will require six double track railroads, having other traffic from which to earn dividends, to perform the business of the Erie canal during the past year, and some eight or ten for the business which the enlargement can command. The above business would require an outfit of at least 10,000 cars and 400 engines, costing say $9,000,000; and if confined to one road, would require the daily arrival of four and a half miles of trains to be unloaded, loaded and sent back, supposing that each train and each car should be fully loaded.

All the railroads now built and in process of construction, to connect Baltimore, Philadelphia, New York and Boston with the west, would be overburdened with business, if freights equal in amount to that of the Erie canal, should be thrown upon them.

The reasons in favor of an immediate enlargement, are in no way lessened by showing (if it can be shown, which I doubt,) that the estimated business can be accommodated by such progress as can be made by the use of the yearly revenues, under a proper system having this progressive enlargement in view. Far more important reasons urge to the immediate completion of the enlargement, than the mere capacity to carry a given amount of freight. To secure cheap transport is, I apprehend, the great end and object in view in the construction of the enlargement. The policy would be apparent, if no greater movement were to be attained than during the past year. The Canal Commissioners, in their report of 1835 state that the reduction in the cost of transport would be, on the enlargement, compared with the old canal, equal to fifty per cent. The average cost of transport on the old canal, with single locks, and before improvements in the capacity of boats, ranged from $7 40 to $6 30 per ton, through, or say $6 85 per ton, or 1 9-10 cts. per ton per mile. The average rates of the last year varied during the season from $4 44 to $6.94 per ton of through freight, or an average for the season of $5.69 per ton, or 1 56-100 cts. per ton per mile. Mr. Olmstead estimates the average rates of transport on the enlarged canal, at $2.40 per ton through, or 6 7-10 mills per ton per mile; of which three mills will be tolls, and 3 7-10 mills, charges. Make the charge 4 mills, and the cost of transport on the enlargement will be 7 mills per ton per mile. The movement last year was equal to 415,676,000 tons moved one mile, and the cost of movement last year, as above stated, was 1 56-100 cts. per ton per mile, making the total charge for transport.....$6,484,545 00

The cost, supposing the enlargement completed, would have been, at above estimate of 7 mills per ton per mile..... 2,909,732 00

Of which $1,247,028 would have been State revenue; making a saving of transport on Erie canal, of..$3,574,813 00

Had the above estimated rates ruled during the year, the amount of revenues would have been largely increased above the amount stated, by the increase of business, and if tolls had been the same as now, 7 mills; then the saving of cost of transport on the business of last year, would have been equal to $1,890,841. It is estimated that a reduction of the average cost of transport to 7 mills per ton per mile, would increase the tonnage of the canal to the enormous amount of 1,000,000,000 tons one mile, by the year 1855, when the whole earnings of the canal would, at the estimated prices, be $7,000,000, of which the State would receive $3,000,000, or more than ten per cent on the cost of the canal. The cost of transporting the above 1,000,000,000 tons at present rates, would be $15,600,000 or $8,600,000 over enlargement prices; a sum sufficient to nearly complete the enlargement.

The above calculations show the importance of an immediate enlargement. The expenditure required is inconsiderable, when compared with the vast and direct pecuniary benefits to result therefrom.

The Erie canal has increased our wealth in every department of business, and in every quarter of the State. It has been a profitable investment to the State by reason of its immense business.

The number of tons moved is the measure of its usefulness; as these increase or diminish, so also will the benefits. Unless the capacity of the canal be increased, its business will be diverted. The present cost of transport on the Erie canal is shown to be 1 56-100 cts. per ton per mile, of which the State receives about 7 mills, or nearly one half. There are lines of communication now built and in progress of construction, which can take freight at a cheaper rate.

The public mind seems to be especially anxious to know what is to be the lowest cost of railroad transport. This question is not yet determined. We can, however, form some estimate by an examination of the results thus far. I have been accustomed to examine this subject closely, and from my own experience and careful examination of results on different roads in our country and in England, have come to some conclusions satisfactory to myself.

In order to show that the statements and reasonings I shall set forth are somewhat in unison with facts, I here append a statement of the cost of railroad transport as shown on a few roads in this State and in Massachusetts. The Massachusetts reports do not divide their freight from their passenger expenses; this I have done as well as I could. The law now requires our railroad corporations to report their freight and passenger expenses separately; in both States they are required to show their total movement. So far as I can determine, this has not generally been accurately done. I give the table, however, as affording some indication of the cost of railway transport, and as showing also the general principle upon which the economy of transport depends.

COMPARATIVE STATEMENT OF FREIGHT EARNINGS AND EXPENSES FOR ONE YEAR.

NAMES.	Miles in operation.	Miles run by passenger trains.	Whole No. carried in the cars.	Number carried one mile.	No. carried each mile run.	Earnings fm passengers.	Expenses of passenger business.	Earned per passenger per mile.	Cost per passenger per mile.	Earned per mile run.	Cost per mile run.	Profit per passenger per mile.	Profit per mile run.	No. miles run by freight trains.	Total tons carried.	Tons carried one mile.	Tons carried each mile run.	Earnings from freight.	Cost of freight business.	Earned per ton per mile.	Cost per ton per mile.	Earned per mile run.	Cost per mile run.	Profit per ton per mile.	Profit per mile run.
MASSACHUSETTS.								Cts.	Cts.	Dolls	Dolls	Cts.	Dolls							Cts.	Cts.	Dolls	Dolls	Cts.	Dolls
Western	117¼	944,678	435,805	30,890,519	126¼	561,575	192,966	1·818	0·635	2 29	76 1·193	1 50	1 81	485,613	273,606	25,327,387	52 1-7	745,393	395,356	2·943	1·561	1 56	0 81	1·382	0 72
Boston and Worcester	44¾	302,609	959,557	22,824,482	75⅝	330,606	281,862	1·440	1·235	1 10	03 1·205	0 17	0 17	158,379	248,768	16,405,270	103 3-5	331,338	147,520	2·020	0·900	2 09	0 93	1·120	1 16
Boston and Maine	78	229,940	370,988	22,430,109	97¼	595,472	175,127	1·859	0·781	2 51	76 1·674	1 75	1 75	82,495	102,485	3,547,817	43	76,544	98 4 760	2·158	0·900	2 05	0 93	2·602	1 12
Fitchburg	61	282,797	652,122	20,867,904	73¼	502,358	218,062	1·923	1·045	1 42	77 0·876	0 65	0 65	168,974	103,893	3,547,817	43	76,544	98 4 760	2·158	0·900	2 05	0 93	2·602	1 12
Boston and Providence	41	183,670	573,360	10,689,697	58¼	325,639	119,041	1·114	1 21	65 0·997	0 56	0 56	0 56	61,180	96,642	2,879,481	47	50,863	98 4 148	1·770	1 95	0 83	2 376	1 12	
NEW YORK.																									
Albany & Schenectady	17	51,545	284,279	4,832,743	93¾	132,207	69	2·735	1·009	2 56	94 1·726	1 62	1 62	32,248	63,012	1,071,204	33¼	70,242	42,406	98 6·557	3·958	2 18	1 31	2·6	0 87
Auburn and Rochester	78	170,550	271,303	13,711,977	76¼	386,616	115,583	45 2·82	0·843	2 15	64 1·976	1 51	1 51	62,016	34,145	2,663,310	43	111,998	47,882	19 4·205	1·798	1 80	0 77	2·407	1 03
Hudson River	75	158,431	509,180	17,821,300	112	242,595	144,047	53 1·361	0·812	1 53	91 0·549	0 62	0 62	25,080	5,745	229,800	9	18,575	9,935	94 8·063	4·019	0 74	0 37	4·604	0 37
Utica and Scherectady	78	229,940	370,988	22,430,109	97¼	595,472	175,127	99 2·655	0·781	2 51	76 1·674	1 75	1 75	93,580	98,695	4,760,720	50	255,668	133,045	87 5·370	2·707	2 73	1 42	2·663	1 31
N. York and N. Haven	61	282,797	652,122	20,867,904	73¼	502,358	218,062	43 1·923	1·045	1 42	77 0·876	0 65	0 65	25,688	15,473	625,000	24¼	26,818	19,523	95 4·291	3·172	1 07	0 73	1·119	0 34
Oswego and Syracuse	35	58,480	77,162	1,937,085	33	57,118	32,607	24 3·	1 683	0 97	55 1 317	0 45	0 45	16,000	7,949	267,089	16¼	9,061	6,335	68 3·392	2·372	0 56	0 39	1·020	0 17
Tonawanda	43¼	115,884	256,404	9,571,050	82¼	255,252	74,567	03 2·667	0·729	2 20	64 1·886	1 56	1 56	38,144	29,211	859,807	22¼	67,668	35,055	55 7·870	4·077	1 77	0 92	3·793	0 85

NAMES.

MASSACHUSETTS.

Western

Boston and Worcester.

Boston and Maine

Fitchburg

Boston and Providence

NEW YORK.

Albany & Schenectady

Auburn and Rochester.

Hudson River

Utica and Schenectady

N. York and N. Haven

Oswego and Syracuse.

Tonawanda

Miles in operation.

Miles run by passenger trains.

Whole No. carried in the cars.

Number carried one mile.

No. carried each mile run.

Earnings fm passengers.

Expenses of passenger business.

Earned per passenger per mile.

Cost per passenger per mile.

Earned per mile run.

Cost per mile run.

Profit per passenger per mile.

Profit per mile run.

No. miles run by freight trains.

Total tons carried.

Tons carried one mile.

Tons carried each mile run.

Earnings from freight.

Cost of freight business.

Earned per ton per mile.

Cost per ton per mile.

Earned per mile run.

Cost per mile run.

Profit per ton per mile.

Profit per mile run.

NAMES.	Earnings from sources other than passengers and freight.	Total earnings.	Total expenses of transportation.	Maximum grade per mile.	Miles in operation.	Miles run by trains.	Total tons carried.	Total tons carried 1 mile.	Total tons carried each m'l run.	Earnings fm freight.	Cost of the freight business.	Earned per ton per m.	Cost pr ton per mile.	Earned per mile run.	Cost per m. run.
MASSACHUSETTS.	Dollars.	Dollars.	Dollars.									Cts.	Cts.	Dolls	Dolls
Western	36,841 51	1,343,810 57	588,322 58	83 feet.	117¼	485,613	273,606	25,327,387	52 1-7	745,393	395,356	35 2·943	1·561	1 56	0 81
Boston and Worcester	41,416 79	703,361 15	429,383 35	30 and 40 feet.	44¾	158,379	248,768	16,405,270	103 3-5	331,338	147,520	99 2·020	0·900	2 09	0 93
Boston and Maine	21,147 30	522,335 51	283,510 76	47½ feet.	74¼	82,495	102,485	3,547,817	43	76,544	98 4 760	2·158	0·900	2 05	0 93
Fitchburg	17,830 55	493,060 43	255,160 25	40 "	51	107,809	287,032	11,062,810	102¾	262,161	95	2·370	0·939	2 43	0 96
Boston and Providence	9,949 84	354,331 60	169,905 48	37½ "	41	61,180	96,642	2,879,481	47	119,441	91 50,863	98 4·148	1·770	1 95	0 83
NEW YORK.															
Albany & Schenectady	6,134 50	208,584 88	91,171 98		17	32,248	63,012	1,071,204	33 1-5	70,242	42,406	98 6·557	3·958	2 18	1 31
Auburn and Rochester.	17,196 32	515,810 94	163,465 64	for ten months.	78	62,016	34,145	2,663,310	43	111,998	47,882	19 4·205	1·798	1 80	0 77
Hudson River	6,490 00	267,660 66	167,383 47												
Utica and Schenectady	72,285 25	923,425 99	308,173 86		78	93,580	98,695	4,760,720	50	255,668	133,045	87 5·370	2·707	2 73	1 42
N. York and N. Haven	32,612 23	461,769 31	237,886 38		61	25,688	15,473	625,000	24¼	26,818	19,523	95 4·291	3·172	1 07	0 73
Oswego and Syracuse.	12,061 96	78,371 61	38,942 92		35	16,000	7,949	267,089	16¼	9,061	6,335	68 3·392	2·372	0 56	0 39
Tonawanda	21,476 88	344,398 05	109,622 27		43¾	38,144	29,211	859,807	22¼	67,668	35,055	55 7·870	4·077	1 77	0 92

By an examination of the table, it will be noticed that the cost on the Boston and Worcester road is nine mills per ton per mile, and on the Fitchburg 9 4-10 mills; that the cost per train per mile run is 93 and 96 cents, and the useful load each mile run is 103 and 102 tons. The cost per ton per mile on the Western road (with grades of 83 feet) is one and a half cents, and per mile run 83 cents, and the useful load 52½ tons each mile run.

The economy of transport on railroads as well as on canals, or rivers, or the ocean, depends mainly upon the load taken at each movement, as the above statements clearly indicate. The Reading road, its managers assert, can carry coal at a cost of six mills a ton a mile, because their trains are fully loaded one way. The Baltimore and Ohio railroad entered into a contract to carry coal at one and one-third cents a ton a mile, while their ordinary traffic was costing them over two and one-half cents a ton a mile. The estimates of their engineers showed them that the coal train will be fully loaded one way, while their other trains had an average movement much below one-half of the power of their engines. Suppose that a train loaded with fifty tons costs seventy-five cents per mile run, then the cost per ton per mile is one and one-half cents; but if the train is loaded with 100 tons, and costs 85 cents per mile to move, then the cost is 85-100 of a cent per ton per mile.

It is no doubt true that by careful management in every department, by employing well constructed cars and engines, trains heavily loaded can move at an expense of eighty cents per mile, and in case of many of our roads where labor, fuel, etc. are cheap, for a less sum. It is, no doubt, also true, that with a large business at command, and under the management of experienced and capable men, average loads of from 100 to 150 tons may be moved, heavy grades excepted, each mile by all trains employed in the heavy traffic, which is moved at rates of speed not exceeding ten miles per hour. This would make the cost from 80-100 to 53-100 of a cent per mile as the mere cost of transport, rejecting only the interest on investments. I am perfectly aware that no results have yet been attained to justify this statement. The Boston and Worcester, and the Fitchburgh roads, have apparently carried freight for nine mills. Have they managed as prudently as possible?

The cost of transportation, when full loads are attainable, is materially modified by grades. The Western road has run at a cheaper rate per mile than the other roads named, though their roads require more power to move them over their maximum grades than do the loads on the Boston and Worcester or Fitchburgh roads, weighing twice as much.

This shows that a road having steeper grades than another, may be run as cheaply per train, and that when the loads are the same, the cost may be the same, or less. There is nothing mysterious in this; the proposition is easily demonstrated, tho' many will pronounce it preposterous. Before, therefore, we decide upon the effect or grades upon the cost of transport, we must determine the maximum load due to those grades, and also whether the usual loads which the traffic of the line will afford, is above or below that maximum. As I am discussing this matter in a practical way, I will not stop to guard against cavils, but simply state such facts as bear upon the subject on hand.

The above remarks are made in view of the distinctive characteristics of the routes I shall name.

Thus far, the average loads of ordinary traffic on all roads, is below the maximum load of an engine on the lines I shall name, or on other lines extending from southern cities westward.

I believe there are no grades on the New York and Erie railroad, or the northern route from Ogdensburg to Boston, which forbid the idea of average loads of 100 tons, if good management and good machinery are called into requisition; that both will be is not to be questioned. I am purposely to state the cost of transport at as low rates as I imagine can, under the most favorable circumstances, be attained, and for evident reasons. Rates as low have been maintained in cases where a strong necessity or important reasons required.

It has been shown to me that flour is now taken from Detroit to Ogdensburgh for thirty cents per barrel. From Ogdensburgh to Boston is 380 miles by railroad, at eight mills per ton per mile, (cost price,) the rate will be thirty-three cents, making the cost from Detroit to Boston sixty cents, leaving no profits for dividends for the railroads. By the Erie canal last year, the average charges were: Detroit to Buffalo, twelve cents; Buffalo to Albany, fifty-four cents; Hudson river ten cents; in all seventy-six cents. This would enable the northern line to charge thirteen cents for profits, and the cost of transport to New York and Boston would be the same.

But there is another, and, I apprehend, a still cheaper route by water to Lake Champlain, soon to come into competition at the north, which will produce as cheap or cheaper rates to Boston than the above. The freight by this route afloat on Lake Champlain may find cheaper transport to New York than to Boston. It will not pass thro'

the Erie canal, and will be diverted from Albany by cheaper routes.

The Erie road can transport as cheaply as the Northern. The charges from Detroit to Dunkirk, twelve cents, thence by railroad to Piermont, 446 miles, at 8 mills per ton per mile, thirty-eight cents, to New York, five cents, in all fifty-five cents, or twenty-one cents under present canal charges, leaving that amount to be charged for profits.

The line of roads between Buffalo and Albany may be so used as to transport cheaper than either the lines named. This line is to be improved in grades and distance. The more level grades will enable them, if traffic permit, to carry larger loads per mile run, than the other lines can; but, make the cost the same, eight mills, and the distance, 325 miles, and the comparison will stand thus: From Detroit to Buffalo, twelve cents; thence to Albany, twenty-eight cents; Hudson river, ten cents; in all, fifty cents per barrel against seventy-six cents, present cost by the canal.

There is nothing in this proving that railroads can transport as cheaply as the canal. We are comparing railroad rates which will give no profit, with rates on a canal yielding to the State, in addition to cost and profit of transportation, a net revenue of over $2,500,000, or more than four per cent on the cost of all the railroads in the State, and find that under such a state of things the business of the canal can be diverted.

Should any one still maintain that the rates of railroad charges used in these comparisons, must result in absolute loss, and that they will not be established, I should answer, that they must result in losses, provided the method of transport should be in any degree faulty, but the fixed plans of operations can be devised, by which no losses would be incurred. Such plans would include good machinery, large loads and slow movements, (compared with present rates of speed on railroads,) and to be applied only to the commodities carried at low rates. The admission that such rates, if established, would be below the actual extra cost occasioned by this business, is not proving that they may not be established. The report of the Western road shows that some of their rates are at the cost point. They have an object in this, quite sufficient to justify the plan as a revenue measure, because it gives them other and profitable traffic, from which to earn dividends. This road would not pay expenses, if it terminated away from a considerable market. These low rates tend to build up the terminating point by which they add to the paying business. The object and the plan justifies the acknowledged shrewdness of our eastern neighbors.

The famous competition between the Reading road and the Schuylkill canal, reduced rates to a point as low as I have used, though they have no trade more profitable to rely upon for dividends. It is evident, therefore, that rates may be adopted on railroads which are below the real cost of transport for many articles, and I suppose that in all well devised tariffs this will always be so, simply as a revenue measure; that is, rates so low, that if no higher ones are charged, would result in actual loss. Could it be demonstrated that our railroads would carry all the freight that would otherwise pass through the canal, and at rates as low as will rule on the enlargement, then no consideration of public interest would require its completion. But it is here shown that they can do no such thing, but that on the enlargement we can carry freight of all kinds, and in both directions, at rates below what the railroads can possibly accomplish, and still give the State a clear revenue of $2,500,000 annually. It is evident that the canal, at its present capacity, can be affected by railroad competition, and that it will be. Canada and Boston have not yet perfected all their works devised expressly for this purpose. Philadelphia and Baltimore have not perfected theirs. All will soon, however, have their whole machinery in motion. Their plans are not the product of blindness or folly. They are the results of good judgment and just appreciation of the great boon sought, and the best means of attainment. But with such rates of charges as the enlargement will secure, the boundaries of our trade will be extended far beyond their present limits, and will embrace the largest and most productive portions of the great west. The tonnage of our canals, which is the measure of their usefulness, will be greatly augmented. Passengers and freight requiring more rapid movement, will be attracted to our railroads. New York will, in spite of every effort that can be put forth, and of any scheme, plan or device which can be accomplished, be and remain the great highway for the west and east, and the city of New York, the great market of the continent. Flour, and all other products in like proportion, will be delivered to her port at a reduction of twenty-five to thirty cents on a barrel. The supply of European markets will thus be more feasible and uniform.

Virginia.

Manassas Gap Railroad.—The stockholders of this company were assembled in general meeting at their office, in this place, on Thursday last, the 10th instant. We were happy to see so large an attendance consisting not only of stockholders in our own community, but from the counties of Prince William, Loudoun, Fauquier, Warren and Shenandoah. The presence of gentlemen from the two last named counties, was especially gratifying, as strongly indicative of the interest felt in that portion of the State, in the success of the enterprise.

The act of the Legislature was accepted, (a large majority of the stock being represented) under which the Commonwealth becomes a subscriber to the stock of the company to the amount of $320,000; and some other business was transacted.

We have gathered from authentic sources, some facts, in reference to this road, which a just pride not only in the community in which we live, but in the good old commonwealth, of which we are now part and parcel, impels us to make public. And this pride, we are free to say, arises mainly from the energy with which the road in question has been pushed forward, and the enthusiastic manner in which it has been sustained by its frieuds, in every quarter.

The company was organized in this town on the 31st day of July last. Now, the road is under contract to the top of the Blue Ridge, a point distance 42½ miles from its intersection with the Orange and Alexandria railroad, and 8 miles from the Shenandoah river. These 8 miles are under location. The Ridge is overcome at an inclination of about 84 feet to the mile on its eastern, and 60 feet to the mile on its western slope; grades, which are mere play things to the locomotives of these days.

Three thousand two hundred and fifty tons of rails have been purchased, about five hundred tons of which are expected to arrive here, about the 1st of August, and the residue as wanted, during the Autumn. This quantity, it is estimated, will complete the road, with all necessary sidelings, to Farrowsville, in the county of Fauquier.

The freight and passenger trains, it is confidently expected, will be in full operation to Withers' Depot, distant from Alexandria 61 miles, by the 1st of January, 1852.

Contracts for the equipment of the road in locomotives, and all the various descriptions of cars necessary, have been made with Messrs. Smith & Perkins, of the Alexandria iron works—a fact which speaks favorably of this firm, in being prepared, at so early a period, to undertake a contract of such magnitude, in addition to their already large engagements, and of the liberal policy of the company, in fostering an establishment within our own town and State.

The reputation of Mr. Perkins, acquired during a long connection with the Baltimore and Ohio railroad company, will, we doubt not, be fully sustained, by the excellence of the machinery he will turn out here.

The friends of *Manassa*, in Eastern Virginia, having done so much, and done it so well and so quickly, look confidently now, to *the Valley*, to take up, and continue the work—and we have no fear of their disappointment.

Ere another month is past, we shall be called upon to record a subscription from that quarter, under the influence of which the links of the iron chain which is to bind us together, and which we are so strongly and so surely forging on this side of the Ridge, will be extended into their midst, there to be fastened and riveted forever.—*Alexandria Gazette.*

Ohio.

Columbus, Piqua and Indiana Railroad.—The corps of engineers on this road arrived in our city last night, and are to-day making observations and testing routes west of this city. Judge Mitchell, the President of the road is in company, and the greatest energy seems to be exerted to push it on to completion. Much interest is felt in the location of the route terminating in this city, and what the different routes run may result in, will be looked for with impatience. It will be some days, perhaps weeks, before a final decision can be arrived at.—*Daily Statesman, 9th inst.*

Liabilities of Railroad Companies.

The Albany and Schenectady railroad Co. were mulcted in damages amounting to $92 20 at the present session of the Supreme Court at Buffalo, Judge Sill presiding, for the non-delivery to the plaintiffs in the cases, Messrs. Crosman and Smith, of Niagara Falls, and loss of a tenoning machine, which had been shipped, properly marked, on board the cars at Albany, to be delivered to the plaintiffs at Buffalo. It was shown that it was the custom of defendants to receive property at Albany to be carried through to Buffalo, and the plaintiffs also called one witness to show that it was the custom of defendants to send property through to its place of destination unless consigned to some one at the end of the route. The property came through to Buffalo, but the tenoning machine was never received by the plaintiffs. It was held in this case, that inasmuch as it was the custom of the defendants, as common carriers, to convey property through from Albany to Buffalo, and as the property in question reached Buffalo and the machine was not there delivered to the plaintiffs, or to any one for the plaintiffs, they were entitled to a verdict. The value of the property was shown to be $75, and the interest $17 20.

Pennsylvania.

The Lebanon Valley Railroad is strongly urged by the Lebanon *Courier*, as an important link in the chain of railroad communication between Philadelphia and the great west. The Columbia road, according to a recent report of Edward F. Gay, civil engineer, in its present condition, is inadequate to afford accommodation for the trade and travel that may reasonably be anticipated on the completion of the Pennsylvania railroad to the Ohio river. Mr. G. proposes to make changes and lessen the curves on the State road to the extent of 24 3-8 miles, at a cost of $1,058,585. This is nearly as much as would be required to complete the whole Lebanon Valley railroad. The recent survey of the Lebanon route proves it to be not only the best, but the natural thoroughfare to connect Philadelphia with the capital of the State.

Maryland.

Baltimore and Susquehanna Railroad.—Coal Burning Locomotive.—This company has had built by Ross Winans, Esq., another of his powerful coal burning engines, intended for the tonnage business of their road. It is similar to the one recently constructed for them by the same gentleman, and the performances of which have given great satisfaction. At the unanimous request of the agents and employees of the company, this engine has been named the "Robert M. Magraw," in compliment to the worthy and energetic President. The company have also a first class passenger engine now in course of construction in their shops at Bolton, under the superintendance of Isaac Denmead, Esq., the efficient master of machinery, which is to be called the "Robert S. Hollins," a name intimately connected with the affairs of the road since its commencement. Notwithstanding the efforts of the company to accommodate the immense trade offering to their road, they have been unable in consequence of want of cars, as well as of motive power, to transport it all. The facilities of the company were hardly sufficient to accommodate their business of last year, and thus far, the increase in their receipts has been at an average of over eight thousand dollars per month.

This has been accomplished only by the most extraordinary labor, and by keeping all of their available machinery running both day and night. It is understood that these difficulties will soon be removed, as measures are under advisement to provide the means of transportation to meet the demands of trade on the road.—*Baltimore Sun.*

Indiana.

Crawfordsville and Wabash Railroad.—The iron for this road is now on its way from this city, via the Erie Canal and the lakes, and the work of laying the track will be commenced in a very few weeks, as all other parts of the superstructure, such as cross-ties, spikes, chairs, etc., are already on the ground. It is expected to have the whole line completed to Crawfordsville, 26 miles from Lafayette, in season for the fall business.

At the last session of the Legislature of Indiana, the charter of the above company was amended, and authority given to extend the line of its road to Greencastle, the county town of Putnam county, 28 miles from Crawfordsville, at which place it will intersect with the Terre Haute railroad, which will soon be opened. This extension will open a direct communication between Lafayette and Terre Haute on the west, and with Indianapolis and all the roads centering at that point on the east, thus opening a direct route between the northern and southern portions of the State.

Ohio and Mississippi Railroad.

This important enterprise, for connecting St. Louis with the eastern cities by a continuous line of railroad, has now assumed a tangible and definite form, and is entitled to the earnest consideration of every one who feels the slightest interest in the future growth and prosperity of our goodly city. Several years ago, a charter was granted by the State of Indiana, incorporating a company to construct a railroad from Vincennes to Cincinnati. This charter was ratified and adopted by the State of Ohio. Subscriptions of stock to this road, including the amount to be taken by the city of Cincinnati, have already been obtained to the amount of about two millions of dollars. The surveys have been nearly completed, over a most favorable route, and we believe the lettings of contracts on the eastern end of the line have already been made. At all events, the subscriptions already obtained insure the early completion of the road, beyond the shadow of a doubt. Two years ago, the legislature of Illinois refused the right of way to this road through the State; consequently, the Indiana charter only embraced the road from Vincennes to Cincinnati. But at the late session of the Illinois legislature more reasonable counsels prevailed, and a charter was granted for the continuation of the road from Vincinnes to Illinoistown. The length of the road from here to Vincinnes will be less than 150 miles, and from Vincennes to Cincinnati about 180 miles, making the entire distance by the road from here to Cincinnati less than 330 miles. It is believed that the entire road can be built in the most substantial manner, at a cost of about $20,000 per mile, which would give six millions six hundred thousand dollars as the aggregate cost of the entire road. The directors under the Illinois charter are now in the city, and are to hold a meeting to-day at the Merchants' Exchange, for the purpose of electing a President, and taking other necessary steps for organising the board.

Such is a brief history of the present condition of this enterprise; and now, the first question that presents itself is this: "What claims has it upon the people of this city, and is it our duty to aid the enterprise in every practicable mode?" In our opinion the road will prove of incalculable value to this city. It will bring into our market the rich products of the Wabash valley, and all the intermediate country. It will afford a rapid and cheap conveyance hence to the eastern markets, for the immense products of which St. Louis is the natural depot, and which will be doubled, if not quadrupled, by the completion of the Pacific, and Hannibal and St. Joseph railroads. It will enable us to obtain our imports from the east, in much less time, and at a greatly reduced cost. By its connection with the Central railroad of Illinois, it will at all seasons afford us a rapid and safe transit to the New Orleans market; and, by means of the Memphis and Charleston road, to the markets of South Carolina and Georgia. It will facilitate the travelling intercourse between St. Louis and the east, to an almost incredible degree. At the present moment, it requires only *forty-eight hours* to go from Cincinnati to New York; and, in a few months, even this short time will be reduced to *thirty-six hours;* when this reduction is made, as we are assured it will be very soon, it would then require only *forty-eight hours* to travel from this city to New York, after the completion of the Ohio and Mississippi road. A few years ago this assertion would not only have been deemed extravagant but absolutely preposterous and incredible. Nevertheless, it is now, in a great degree, actually realised, and can be as easily demonstrated as that two and two are four.—*St. Louis Intelligencer.*

Theory versus Practice.

The new Constitution of Ohio, which is soon to be presented to the people for acceptance, prohibits the taking of stock in, or the loaning of credits to, railroads, by counties and towns. In view of this, the people in every portion of the state are moving in the matter of voting subscription to the various lines in contemplation and progress, while they are left free to act. Before they immolate themselves upon the altar of *principle*, they seem disposed to take a *horn* all round, by way of *treating* their resolution.

The following show the results of some of the elections that have just come off:—

The county of Clinton has voted to subscribe to the Cincinnati and Zanesville road by a majority of 600.

Fayette has done likewise by a majority of 800.

Pickway gives 664 in favor of subscription.

Fairfield gives 1,000 majority for a subscription of $250,000.

Sandusky county has voted a subscription to the Cleveland and Toledo road, and so has Huron county. The work will go on.

Harrison county has voted to subscribe to the road from Newark by Steubenville to Pittsburgh.

Union county has voted to subscribe $125,000 to railroads—$75,000 to the Springfield and Delaware—$25,000 to the Columbus and Piqua, and $25,000 to the Bellefontaine and Delaware road.

Knox county has rolled up a large majority for railroad subscriptions.

Louisiana.

New Orleans and Jackson Railroad.—This project, which has for a long time occupied the attention of the people of New Orleans, is at last beginning to assume a tangible shape. A survey of the whole line has just been completed under the direction of A. S. Phelps, Esq., of which we present the following abstract. The whole length of line is 92½ miles. It commences at a point about 3 miles from the city of New Orleans, on the west bank of the new canal. The cost of each section is stated as follows:—

River Section, 28 miles, at $9,507 43 per mile	$26,208
Swamp section, 16½ miles, at $11,205 40 per mile	184,889
Pinewood sections, 48 miles, at $8,454 12½ per mile	405,702
Making the total cost	$856,799

Or $9,262 70 per mile. These estimates are based upon the best materials, and the most substantial mode of construction. The sum of $1,000,000 will cover all items of cost for putting the road in working condition, including equipments, stations and the usual incidentals.

Wrought Iron Beams for Steam Engines.

The beams of steam engines, as most people are aware, have hitherto been made of cast iron, which is liable to break. The attempt to make them of malleable iron, was never dreamt of; and when we state that rolled beams are now to be seen at the depot of the York, Newcastle, and Berwick railway, the announcement will be received in many quarters with surprise, if not incredulity.—We saw the monster plates, however, with our own eyes (the largest plates ever yet rolled) measuring 17 feet in length, 4 feet 8 inches in breadth at the widest part, and 1¼ inch in thickness. Each plate weighs upwards of 1 ton 4 cwts. These plates were manufactured at the Derwent Iron works, Consett, and are on their way to Messrs. Todd and Macgregor's works in Glasgow, to form part of a large marine engine: they are much lighter, and, consequently, less cumbrous, than the ordinary cast iron beams, and infinitely safer.—*London Mining Journal.*

Michigan.

Railroad Travel.—The number of passengers passing over the Michigan Central railroad for Feb. 1851, was 5,072, amounting to $9,330,72 for fare. The number of through passengers was 327, amounting to $2,168.

For the month of March 1851, the number was 8,835, amount received for fare, $21,995,45. The number of through passengers was 1,679, amounting to $10,625,52. The number going east was 839; west 840.

For February 1850, the number of passeugers was 4,708, fare received $9,004,00.

For March 1850, the number of passengers was 7,738, fare received $18,130,55.

New York.

Buffalo and Conhocton Valley Railroad.—The Bath Courier says that most if not all of the contractors upon this end of the B. and C. Valley railroad, have broken ground on their respective sections, and are now fairly at work. In many places through our valley, it looks very much like a railroad already. Some of the engineers are taking their march westward, and our Livingston county neighbors will soon have occular evidence of the determination of the company to prosecute the work vigorously, and complete it as soon as possible.

St. Lawrence and Atlantic Railroad.

The Montreal Pilot, speaking of the interruption which had occurred in this work, says:

"We are much pleased to learn that the difficulties which have existed between Messrs. Black, Wood & Co. and the Directors of the St. Lawrence and Atlantic Railroad Company, have been arranged in a manner satisfactory to all parties; and that in accordance with their original agreement, the contractors will press forward the works on the road, so as to insure its completion by the month of October, 1852.

There is no doubt that at that date the communication between the St. Lawrence at Montreal and the Atlantic at Portland, will be fairly opened for an extensive traffic.

Ohio.

Steubenville and Indiana Railroad.—The city of Steubenville has decided, by a vote of 6 to 1, to subscribe $100,000 to the capital stock of the railroad from Pittsburgh westward. Also the counties along the line, in Ohio, have subscribed, or intend subscribing handsomely.

At the Cleveland Charter election, that city voted, by a decided majority, to subscribe $100,000 to the Lake Shore railroad.

To Contractors.

Covington and Lexington Railroad.

SEALED PROPOSALS will be received at the Covington and Lexington Railroad Company, in this city, until the fifth day of May next, for Grading forty miles of the Covington and Lexington Railroad, commencing at the town of Falmouth, Pendleton Co., and extending up the valley of the South Licking river to the town of Cynthiana, Harrison Co., thence to the town of Paris, Bourbon Co.

The proposals will include all the excavations, embankments and masonry for culverts; also, the masonry for bridges.

Plans and specifications of the work, to be seen at the office of the company at any time between the twenty-fifth of April next and the 5th of May.

SYLVESTER WELCH,
Engineer Cov. and Lex. R.R.

Office of the Covington & Lexington Railroad,
Covington, Ky., April 1st, 1851.

Illinois.

The stockholders in the Rock Island and Chicago railroad, (formerly Rock Island and Lasalle,) under its amended and extended charter, have just completed the organization of the company, and chosen the following gentlemen as directors, namely:—

James Grant, Ebenezer Cook, N. B. Berford, Lemuel Andrews, Charles Atkinson, John Stevens, F. D. Brewster, N. D. Elwood, J. Cook, John Stryker, E. C. Litchfield, John B. Jervis, and Charles Butler.

The directors unanimously chose Judge Grant of Davenport, President of the board.

New Business for Railroads.

In olden times, to people the world, a musical genius supplied the great lack of inhabitants, by *singing* trees and stones into men. We learn that the same influence is to be brought to bear upon railroads, to supply any lack of *coin* that may exist with such. The great "ORPHEUS" of the 19th century—DODGE—having announced his intention to sing in Tripler Hall on the 29th inst., immense excursion trains are being got up in Boston, for the purpose of bringing, it is said, some 2,500 people to this great entertainment, and who are likely to part with *change*, if they do not undergo any.

Missouri.

The St. Louis Intelligencer in speaking of the internal improvement feeling in that State, says:

From all quarters of the State, we have the most cheering account of the state of the public mind in reference to Plank Roads. Several companies have already organized and are taking the most active measures for the completion of their roads. We believe a large portion of the stock has already been taken in the road from the Pilot Knob and the Iron Mountain to St. Mary's Landing. The road will certainly be completed at an early day. A large amount of stock has also been taken in the road from the same points to Ste. Genevieve. The same may be said of the road from Glasgow to Huntsville, and on the 21st inst., a convention is to assemble at Danville to deliberate of the road from Glasgow to St. Charles. This last is a noble enterprise, which we trust will be successfully carried out. It will be one of the most useful enterprises in the State, and will not only greatly enhance the value of property along the route, but it will be a *paying* road. Running through a rich and populous country, the travel and transportation over it will be immense. We hope it will be urged forward with energy.

If the Legislature at the late session, had done nothing else than to pass the general Plank Road law, providing for the organization of companies, it would have conferred a great benefit upon the community. With the Pacific, and Hannibal and St. Joseph railroads, north and south of the Missouri river, we need nothing except that these two main trunks, shall be intersected with Plank Roads on either side of them, to render Missouri one of the richest and most populous States of the Union. The right spirit is now abroad amongst the people, and the day is not far distant when all will feel and admit not only the wisdom, but the absolute necessity of such improvements.

AMERICAN RAILROAD JOURNAL.

Saturday, April 26, 1851.

Particular Notice.

☞ Subscribers wishing for odd numbers of the Journal as far back as 1845, to make good their sets, can be supplied *gratis* by *immediate* application at this office. After two weeks, we may not be able to furnish any.

The Stock and Money Market.

There has been but little alteration in the money market since our last; but whatever change has taken place has been a favorable one. The prices of well known stocks are well sustained, indicating an abundance of money, in all the ordinary channels of business. In the securities of new works there is no great activity, though large amounts of bonds are constantly, but quietly, finding their way to the holders for investment. The supply exceeds the demand, and the consequence is, that our leading houses engaged in the negotiation of new securities, have large quaniities on hand, which operates against those coming into the market. We apprehend, however, that those having good securities will find no difficulty in obtaining money at fair rates during the coming season. It is far more conducive to a healthy state of things that money in large quantities should be somewhat difficult of access, than that it should be had at the call of every speculative movement, as in 1835 and 6.—Eighty-five cents *net* may be considered as a fair price for bonds of new works of the best character.

In the rail market, the quotations are about the same as those by the previous steamer, but prices were less firm, and more favorable to the buyer.

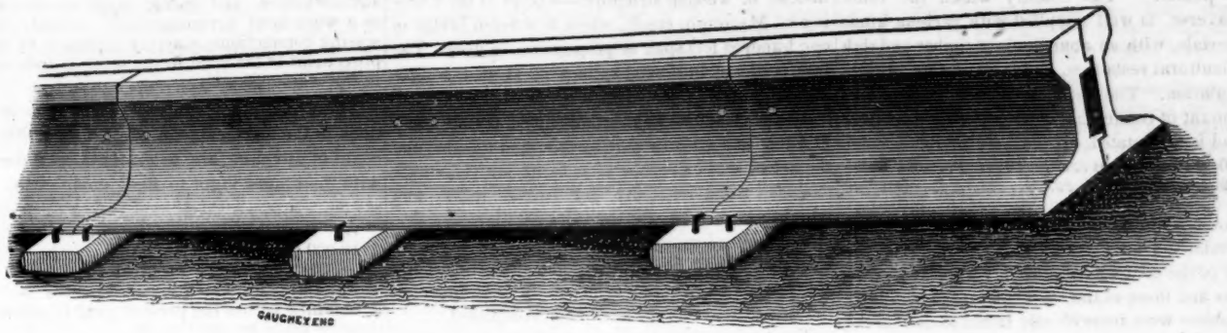
SALES OF STOCK IN NEW YORK.

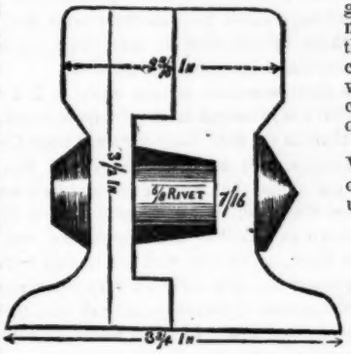
	April 16. Sales.	April 23. Sales.
U. S '67 Loan	116¼	117
Erie R.R.	89⅞	89¾
Harlem R.R.	74	73¾
Stonington	43½	44
L.I. R.R.	23½	23½
Norwich & Wor.	64½	65
Del. & Hudson	129½	128
Reading	61¾	59
Morris Canal	18½	18½
Erie income	95	96
" " Bonds.	102	102
Canton	72	72
Farmers Loan	64½	65

SALES OF STOCKS IN BOSTON.

	April 15.	April 22.
Old Colony Railroad	69	67
Boston and Maine R.R.	104½	104
Eastern Railroad	102	101½
Fitchburg Railroad	111¾	111¾
Michigan Central Railroad	94½	94½
Northern Railroad	71	70½
Vermont Central Railroad	35	35½
Vermont and Mass. R.R.	31¾	33
Western Railroad	102	102
Ogdensburg Railroad	40½	40
Rutland Railroad	58	58½
Boston and Worcester Railroad.	104¾	104
Rutland Railroad Bonds	97	97
Ogdensburg Railroad Bonds	97½	97½
Vermont Central R.R. Bonds	91	92
Boston and Providence R.R.	85	85
Philadelphia, Wilm'gton & Balt.	29¾	29½
Concord R.R.	56	56
Manchester and Lawrence	90	90

PATENT COMPOUND RAIL.





THE UNDERSIGNED NOW OFFER TO THE Railroad Public a new Compound Railroad Bar, which possesses, as they believe, a decided superiority over every kind now in use. The Cuts annexed will give a good idea of the form of the Rail, and the mode of combination.

This Rail has now been in use on the New York and Erie and the Utica and Schenectady Railroads for nearly two years, and has proved itself to be a *durable* and *continuous* rail, realizing the advantages of a theoretically perfect rail, over the one in common use. We invite the attention of Railroad Companies to a careful examination of the merits of the form now offered.

The advantages of this Rail are: first, it effects a saving of from 25 to 50 per cent. in the wear and tear of the machinery; secondly, it saves to a vastly greater extent in the repairs of track; thirdly, it secures a much higher rate of speed with the same power; and what is of still greater importance, it offers complete protection against most of the accidents to which companies are liable. For these reasons, it is believed to be not only the best, but the cheapest rail that can be used. In enumerating its advantages, the proprietors only repeat the statements of competent persons, who have had the best opportunities of judging of its merits.

This improved Rail is now being manufactured at the Works of the Mount Savage Iron Co. in Maryland. Any communications or enquiries addressed to either of the undersigned will receive prompt attention.

J. F. WINSLOW, President, Troy, N. Y.
ERASTUS CORNING, Albany.
WARREN DELANO, Jr., N. Y.
JOHN M. FORBES, Boston.
ENOCH PRATT, Baltimore.

April 8, 1851.

Alabama.

Winchester and Alabama Railroad.—A meeting of the stockholders of the Winchester and Alabama railroad company was held at Winchester on the 7th inst. W. C. Venable, Esq., President, and Geo. W. White, Esq., acted as Secretary. The following gentlemen were elected Directors of the company for the ensuing twelve months: Hugh Francis, Wm. S. Smith, Peter S. Decherd, Thos. F. Moseley, L. L. Matthews, David Arnett, Jared Simmons, John Handley, Michael Williams, James H. Davis, Wiley B. Wagner, Thos. Finch, Benj. Decherd, Thos. S. Logan.

Michigan Southern Railroad.

The receipts of the Michigan Central railroad for March, 1851, were.....$10,107 26
In same month last year..... 28,673 00

Increase this year.....$11,434 26

Hannibal and St. Joseph Railroad.

The Directors of the Hannibal and St. Joseph railroad are to meet at Linneus, Linn county, on the 24th inst., to take the necessary steps for the immediate commencement of the work.

Wabash and Erie Canal.

This canal is now completed between Toledo, Ohio, and Point Commerce, Ia., giving a continuous line of canal of 352 miles—268 miles in Indiana and 84 miles in Ohio. The continuation of the line from the Point Commerce to Evansville, on the Ohio river, a distance of 111½ miles, is all under contract. An effective force of two thousand men has been employed upon it the past season, and its final completion in the fall of 1852 is placed beyond a doubt. This great work, so soon to be completed, will be 463½ miles in length—the greatest work of the kind ever undertaken by any State of the American Union—the largest continuous artificial channel of communication on the European or American continents.

Genesee Valley Railroad.

We learn from the *Genesee Republican* that two companies of engineers are now engaged in making the preliminary surveys on the Genesee Valley railroad, and it is expected that they will be in the immediate vicinity of the village in a few days.

Missouri.

Pacific Railroad.—At a meeting of the stockholders of the Pacific railroad company, held on the 31st of March, at St. Louis, its President, Thomas Allen, Esq., made, on behalf of the board of directors, a report of the operations of the company up to that date, of which we present the following abstract.

The preliminary organization of the company took place on the 31st of January, 1850. Books for subscription to the stock were opened on the 4th of February following, and on the last Monday in March, 1850, the board of directors were elected, and Mr. James P. Kirkwood, of this city, was selected Chief Engineer. On the 24th of May, 1850, Mr. Kirkwood commenced the survey of the "most practicable route to the western boundary line of the State, including the Merrimac Valley route, crossing the Gasconade and Osage rivers, south of Jefferson City." Subsequently the Missouri river route as far as Jefferson City was surveyed, and a line from the main line, near Cass county, to the Missouri river, near the mouth of the Kansas. The report of the survey was completed by the Engineer in January of this year; and presents a survey with the usual exhibitions of the nature of the country, etc., of three routes—one by the Merrimac Valley, another by Union Bridge, and the third by the Missouri Valley, with continuation condensed into two routes to Jefferson City; one crossing Osage river south of Jefferson City, and passing by Versailles, and surveys continued to State-line in Cass county, and also by Independence to Kansas. The country embraced in these surveys is over three hundred miles in extent, with a width of twenty to thirty miles. The aggregate length of routes surveyed is 825 miles.—

The whole amount of subscriptions to date of report is.....	$544,100
Add conditional subscription of Jackson county.....	100,000
Add subscriptions of individuals in Cole and Franklin counties.....	14,000
And subscriptions voted by people of St. Louis.....	500,000
	$1,158,100

The further amount of $341,900 will be required to be raised to make the sum of $1,500,000 to secure the same amount of the State loan. To avail themselves of the whole loan—not to exceed $2,000,000—the company will be obliged to raise by subscription $500,000 more. This done, they will have available means of $4,000,000. To secure the payment of this loan, the company mortgage their road and its appurtenances. The bonds to be issued by the State bear 6 per cent interest, and have twenty years to run. As has been stated, the length of the road is 500 miles, costing upon an average $20,000 per mile $6,000,000 for the whole. That sum will put the road in working order. The maximum grade is about fifty feet to the mile. It is intended to locate and contract for the construction of some 40 or 45 miles of the road during the present year. This extent can be constructed for about $100,000, including depot grounds in St. Louis, land damages, buildings, equipments, etc. There will arise no necessity, in accomplishing this, to locate the remainder of the line, while at the same time, either of the three routes, heretofore mentioned, can be adopted. Of the two routes by the Missouri and by the Merrimac Valleys the former, although rather shorter, is the most expensive. The estimated cost of the first 55 miles of the Mer-

rimac route is $22,979 per mile, while 49 miles of the Missouri line will cost $25,878 per mile. In the choice of routes, the company will be guided by what will "best promote its interests, and those of the public." The country which the route will traverse, is well supplied with various kinds of materials, with an abundance of timber and rich in agricultural resources, and is increasing rapidly in population. The estimate of the Engineer of the amount of traffic that will probably pass over the road is thus stated:—

118,000 tons of freight	$470,200
139,000 passengers	501,700
Total	$971,900

Amendments have recently been made to the charter of the company, highly favorable to its own interests and those of the stockholders. Originally stockholders were individually liable to double the amount of their stock, but this liability is now reduced to the amount *unpaid* on the stock held by each, and the liability only holds for the time during which the stock shall remain unpaid. By another amendment the charter has been made perpetual. In addition to this, the whole country is now thrown open to the company, which was formerly restricted within certain limits, in the choice of route. By a further amendment, the property of the company is exempt from taxation for five years. It will thus be seen that the State of Missouri has acted with great liberality towards the company. Had Congress acted in the same spirit, the company would have been enabled, with present means, to have constructed the entire road.—Congress, at its next session, however, may do in this respect what the last left undone, especially when it is clearly shown that the grants of lands—six miles wide on each side of the road can be made, not only without loss, but with positive advantage to the United States.

The officers of the company for the present year are:—James H. Lucas, Luther M. Kennett, Louis A. Labaume, James Harrison, Thomas Allen, Hudson F. Bridge and Edward Haren. Thomas Allen, Esq., was re-elected President, and James H. Lucas, Esq., Vice President.

Illinois.

Alton and Sangamon Railroad.—We learn from the Springfield Register that the grading of twenty-three miles is completed, and on the remaining ten miles, the work is more than one half done. One thousand tons of rails, for about eleven and a half miles of track, have been delivered at Alton, and the residue of the iron for the entire road to Springfield, is delivered at New Orleans. Fifteen thousand ties, or sufficient for over seven miles, have been delivered at Alton; and contracts for the whole road have been entered into, and sufficient to extend the road to Carlinville is now ready for transportation.

All the lumber for the station houses, engine and machine shops have been procured. The foundations for the depot buildings, engine house and machine shop, &c., at Alton, are laid, and the walls up ten or twelve feet. Ten freight cars have been delivered at Alton, and contracts made for all the engines and cars, which are now constructing in the best shops in Massachusetts. The average force on the work, during the winter, has been about seven hundred men.

The masonry—of which a large amount has been done—is still building in the most permanent and durable manner, of stone, in all respects equal to that on the New York and Erie, the Hudson River, the Harlem Extension, and the best constructed railroads in New York and New England. In the crossing of streams, permanent stone arches, varying from fifteen to forty feet span, have been made, instead of wooden structures—except at the crossing of Macoupin creek, where a wooden bridge of one hundred feet span is proposed to be used. The iron is of an improved pattern of H rail, weighing 56 pounds to the yard.

The contractors have commenced laying track at Alton, and are now carting iron and ties, beyond the heavy work near the city, to the prairie, which extends, uninterruptedly, for twenty miles, and which is now ready for the rails.

A definite location of fourteen miles north of Carlinville has been made, and the preliminary surveys necessary to decide on the remainder of the line to Springfield, have been completed.

The land surveys to obtain the right of way from Carlinville to this city are being made, and offers of land for a depot and machine shop, &c., have been made by our citizens, and forwarded for the consideration of the board of directors.

The chief engineer of this work is J. I. Shipman, but the principal labor of superintending the operations in the field, have devolved upon Charles Floyd-Jones, who for some years past has been employed upon the New York and Erie and the Harlem Extension railroads, and who is favorably known as a skillful and experienced engineer.

The vigor and energy with which this work has been prosecuted, has excited a very salutary effect upon the people of Illinois, and will give them an increased confidence in their ability to carry out successfully works of a similar character.

Ohio.

Bellefontaine and Indiana Railroad.

The following is a synopsis of the first annual report of the President and Directors, report of the Chief Engineer, etc., of the Bellefontaine and Indiana railroad.

This important road is known as the "third link in the great central backbone line to St. Louis." It commences at Galion, at the intersection of the main lines leading out from Boston and New York through Cleveland, and those running from Philadelphia and Baltimore through Pittsburgh, and runs thence on a general course about south west by west, through Marion, Bellefontaine and Sidney, to the newly laid out town of Union, on the State-line between Ohio and Indiana, where it forms a junction with the Indianapolis and Bellefontaine railroad, leading on to Terre Haute, St Louis, etc. Its length is 118 1-5th miles.

James H. Godman, the President of the company, in his report, states, that the charter was obtained on the 25th of February, 1848, and that the company was organized on the 25th of November of the same year. On the 19th of February, 1849, an amendment to the charter was obtained, which authorised the company to extend their road eastwardly as far as Mansfield, in Richland county, Ohio. About the first of October, 1849, a new corps of engineers was employed.

Even at this stage of our progress, our success in the estimation of many, seemed involved in doubt. Our system of operations was undigested—the obstacles in our way not fully understood, and scarcely to be anticipated. The ground in a great measure untested—public confidence, so necessary to success, and which is generally of slow growth, had not been extended to us. We were struggling, with limited means, against adverse interests, and jealous rivals, whose kindred works occupied much of the public attention.

I have the satisfaction, however, now to inform you, that by the publication of the report and map of preliminary surveys, and through editorial and newspaper articles, pamphlets, &c., our work has become widely known, its merits and importance acknowledged, and public attention directed to it as a work most advantageously located, and possessing connections scarcely equalled by any improvement of the kind in the west, if indeed it can in the whole country.

The whole line is under contract. The subscriptions in the aggregate amount to $550,000. The board of directors are determined to prosecute it with the utmost vigor to final completion. They say:—

We shall need an additional subscription of $110,000 to enable us to purchase the necessary materials, [exclusive of iron] for the superstructure of the road, which we anticipate will be readily obtained within the present year if proper exertions be made by our friends.

We have *the* route, *the* country, the means; and with the requisite efforts, we shall be triumphantly successful.

In procuring the right of way, and negotiating for the settlement of damages, the board have been met by the citizens through whose property the road will pass, with a few unworthy exceptions, in the spirit of men who appreciate the advantages accruing to themselves and the public from its construction, and the right of way has in most cases been voluntarily conferred upon the company, or purchased upon equitable terms.

We make the annexed extracts from the report of W. Milnor Roberts, Chief Engineer of the company:—

Galion, the eastern terminus, is 79 miles from Cleveland, 185 miles from Pittsburgh, by way of the Ohio and Pennsylvania railroad, 57 miles from Columbus, and 178 miles from Cincinnati by way of Columbus and Xenia. But by way of your line to Bellefontaine, thence by the Mad river railroad to Springfield and the railroad to Dayton, and thence by the new railroad route through Franklin, in the valley of the great Miami, it is only 143 miles; being 15 miles shorter than the Columbus route.

The railroad from Cleveland to Galion, is now finished and in operation, and on the completion of your road to Bellefontaine there will be a continuous line over the eastern division of your road to Cincinnati; commanding a share of the business of West Liberty, Urbana, Springfield and Dayton, and the flourishing trade of the most populous and fertile valley in Ohio. This extension in the direction of Cincinnati, to whatever extent it may attract trade and travel, though secondary, and entirely subordinate to the main design of your improvement, is certainly entitled to some attention.

The following are presented as the general topographical features of the line:—

The road consists mostly of long and straight lines, connected by gentle curves, with grades of moderate ascent, averaging about 20 feet per mile. In the whole distance, 108 2-5 miles are straight, and 10 miles are curved; being about one-eleventh of the route. The road is only four miles longer than the air line distances between the points fixed in the charter.

The radii of the curves vary in length from one-fourth of a mile to two miles. The smallest radius used being 1146 feet, in three instances; one at the Belletontaine depot, and one in the Miami valley; all of them short. In general, the changes of direction are made with radii of 2865 and 5730 feet. The *maximum* gradient employed is 39 feet and 60 hundredths feet per mile, and the longest grade of this kind, is less than three miles, descending from Bellefontaine westward.

On the first *fifty* miles from Galion westward, and on the last *twenty-five* miles to the western terminus, the grades, the curvature, and the amount of work, are usually moderate. The strongest grades and curves, and the most expensive work, occur on the intermediate 43 miles, extending eleven miles westward, and thirty-two miles westward of Bellefontaine. But even on this point, the line, as com-

pared with eastern railroads, is highly favorable with respect to grades, curves and cost:

Estimated Cost.

Graduation and masonry 118 1-5th miles a $4,000	$472,800 00
Graduation and masonry of 5 miles for double track at $2,000	10,000 00
Railway superstructure, 118 1-5 miles at $8,000	945,600 00
Railway superstructure on 5 miles sideings at $8,000	40,000 00
Estimated cost of right of way, paid chiefly in railroad stock	12,600 00
	$1,481,000 00
Equal to $12,525 per mile.	
Depot buildings, water stations, &c..	$70,000 00
Locomotives and cars	199,000 00
	$1,750,000 00

Total estimated cost of railroad and equipment, $1,750,000 00.

Equal to about $14,800 per mile.

This estimate is intended to provide for a first class road with a rail of the latest improved pattern, weighing 60 lb per yard, laid on cross ties set 2 feet from centre to centre. The estimate for the depot buildings, stations, cars, &c., is sufficient for a business considerably more extensive than that mentioned in another part of this report, and it might not be necessary, in the first instance, to expend so much on these items.

PROSPECTS OF BUSINESS.

Considered with reference to the interior trade of the present day, there is perhaps no place in the west more advantageously situated as a grand concentrating railroad depot, than the city of Indianapolis. Located in one of the most fertile regions in the Union, that city has been fortunate in possessing far-seeing men, who, in conjunction with other intelligent minds of that State, have turned the attention of the people to the importance of an extensive system of internal improvements, many of them centering at their capital city.

Indianapolis, is, literally, the centre of a perfect web of railroads, radiating to Madison, Louisville, New Albany and Evansville, along the Ohio river; to Terre Haute, on the Wabash, and to Lafayette, Peru, and other points on the north; and by means of the Indianapolis and Bellefontaine railroad, and your continuation, connecting with all the leading eastern railroads. These numerous and important Indiana roads must necessarily concentrate an immense business at Indianapolis, the shortest and cheapest outlet of which, will be on your line to Galion, and thence to the eastern sea ports.

There are periods of the year, when the bulk of their trade will seek an eastern market by your line, in preference to the New Orleans route by the river; and at all times, great numbers of western, and south western, and many north western merchants, will strike Indianapolis in their travels.—And when the line shall be extended to St. Louis, the trade and travel directed to the same central point will be largely augmented; from Indianapolis, then, you may anticipate a lucrative and annually increasing business.

The natural increase of population, would create a constantly increasing revenue, but we must add to that the large increase arising from the extension of new railroads into more distant and already thriving regions. Independently of the thro' business which will ultimately be derived from St. Louis, and from the whole State of Missouri; and from the extension of the lines to the Pacific, carrying across this continent the commerce of our Pacific possessions, and of Asia; there will be a remunerating trade for your road from the State of Indiana alone. In addition to this, you will always command the local business of Darke, Shelby, Logan, and Marion, and important districts in Mercer, Auglaize, Miami, Champaign, Hardin, Union and Delaware counties, in Ohio. The tolls from the business of Ohio would be sufficient to sustain an enterprise costing so little.

At an early period in the future, branch railroads, or plank roads will connect your line with Greenville, the capital of Darke; Wapokanetta, the capital of Auglaize county; Troy and Piqua, in Miami county; Kenton, the capital of Hardin county, and other towns; making this their channel of communication with the leading markets.

The railroads in Ohio, when finished with heavy rails as first class roads—such as it is contemplated to make yours, in the first instance, can certainly make net running rates of 25 miles per hour. It will be done all along the Lake Shore road. It is now accomplished daily between Albany and Buffalo; and I have no doubt it will be effected easily, on the Indiana and Illinois roads.

At this rate of travelling, taking Galion as the starting point, passengers would reach Cleveland in 3 hours, Erie in 7 hours, Dunkirk in 9 hours, Buffalo in 11 hours, Albany in 24 hours, Boston in 32 hours, and New York by New York and Erie road, in 28 hours.

Pittsburgh would be reached in 8 hours, Harrisburgh in 17 hours, Philadelphia in 22 hours; New York, through Philadelphia, in 26 hours; Baltimore by way of Harrisburgh in 21 hours, and Washington city 22½ hours.

Columbus, Ohio, in 2¼ hours, Cincinnati, by way of Bellefontaine, in 6½ hours, Union, at the western end of your road, is 4¾ hours, Indianapolis in 8 hours, Madison in 11½ hours, Louisville in 12½ hours, Terre Haute in 11 hours, St. Louis in 17 hours, Lafayette, Indiana, in 11 hours, Chicago, by way of Lafayette, in 15 hours.

Philadelphia to St. Louis in 40 hours—to Indianapolis in 30 hours—to Chicago in 27 hours—to Cincinnati 28¾ hours!—Where will the *Western* States be then? And when the line shall be opened to San Francisco, to the Pacific ocean, in 5 days. On what will then be the great steamship and railroad thoroughfare between Europe and Asia?

I have only to remark, in conclusion, that if the stockholders in your company promptly furnish the funds to enable us to push forward the grading and bridging during the present season, the entire line may be finished and in operation in the fall of 1852.

The statement of the Treasurer, Wm. S. Kendrick, shows the amount of cash receipts during the year ending December 3d, 1850, $91,971 34, and the amount of expenditures to the same period $85,913 99.

This improvement certainly holds an admirable position among the great railroad lines now in progress of completion between the Atlantic cities and the great west, and promises a liberal remuneration to its stockholders, whilst at the same time, it must benefit largely the country through which it passes.

The following letter, addressed to the editor of "The Advocate," Dublin newspaper, appeared in that paper on the 30th of October, 1850:

THE WEST OF IRELAND PACKET STATION.

SIR,—In keeping this question before your readers, it ought never to be lost sight of that the establishment of such a Station must be combined with a total revolution in the species of packets employed.

It would be irrational to have a West of Ireland station for such hulks as the Cunard or Collins fleets. There is an analogy between a horse and a steam-vessel, which may familiarly illustrate the state of the case. With a horse, and likewise with a steam-vessel, high speed and long distance are incompatible. The greater the speed in each case, the greater the exertion; and a great exertion cannot be sustained for a long journey, or for a long voyage. Hence, when fast coaches, such as the *Wonder* and the *Telegraph*, which used to travel from London to Shrewsbury, and from London to Manchester, respectively, in one day, were started for the accommodation of those to whom time is more valuable than money, it was necessary, in order to accomplish the task, that arrangements should be made for changing horses at shorter distances than had been customary with slower coaches; but the mere establishment of stabling at short stages along the road did not of itself create a fast coach. Short stages were essential towards enabling high-bred horses, with suitable light coaches, to perform speedy work; but the clumsy stage waggons of our ancesters, which were in no respect adapted for speed, could not have gone from London to Manchester in one day, even with all the aid of stabling at short distances.

In like manner, the present sea-waggons which jog between Liverpool and New York, could not, even with the advantage of a start from the West of Ireland, perform speedy voyages across the Atlantic.

The Chancellor of the Exchequer lately quashed a Parliamentary discussion about the views of Government as to an Irish Packet Station, by stating that a clause was to provide, in the Royal mail contract, for the transfer of the packets to such a station on certain terms, if circumstances should hereafter require it; but the Chancellor of the Exchequer did not understand what he was talking about if he supposed that a mere touch of the rudder, at the command of a Treasury pen, can transform hulkish sea-waggons, such as at present go between Liverpool and New York, and between Southampton and the West Indies—distances of three or four thousand miles—with goods, and with capacity for two or three weeks' consumption of coal, into packets adapted for mail and passenger service on the Atlantic ferry between the West of Ireland and Halifax.

A packet adapted for the swift conveyance of mails, passengers, and electric intelligence between the Old World and the New at this Station, must be a totally different sort of vessel from any that exists on the ocean scale. If the Commissioners appointed by Government to report on an Irish Packet Station, approach the consideration of the subject with reference to any existing class of ships or contracts, they will be ingenious if they can discover virtue in such a station.

Approaches to the abutments of a bridge, and the bridge itself, must have a mutual adaptation; and the necessity of the Commissioners making the present state and prospects of ocean steam navigation a most prominent branch of their inquiries, must be importunately urged.

It must be observed, in passing, that an inconsistency in some advocates of a West of Ireland Packet Station, who talk loosely of "New York" as the station on the other side of the Atlantic, ought to be rectified.

Whatever sound argument there may be in favor of the West of Ireland as the European abutment of the Transatlantic ferry, must be at least equally conclusive in favor of the most easterly available port in the Western World as the American abutment. The eligible port is, unquestionably, Halifax; for, although Canso and Whitehaven, in Nova Scotia, which have been alluded to in some recent discussions, are some miles nearer Europe, their well-known liability to prolonged obstruction by ice condemns them; and there are aggravated insuperable obstacles of the same kind to the still nearer coast of Nowfoundland being advantageously available. It is, therefore, for Halifax, in the Western hemisphere, as for Ireland in the Eastern hemisphere, that the struggle must be made, and such a struggle must eventaally succeed. Nature decrees it.

Nothing but carelessness and indifference on the part of the British Government to national interests, together with their prolonged unacquaintance with the resources of steam navigation, can delay it.

The importance of the projected Halifax and Quebec Railway will become strikingly visible the moment that the ferry between the West of Ireland and Halifax shall have been decided upon as the great highway for mails and passengers between the two worlds.

In order to show the capabilities of the proposed ferry, a vessel, *specially adapted for the service*, ought to be immediately constructed, on the most improved plan. The Cunard boats must not, however, be taken as a pattern; for, notwithstanding their bombastic boasting, echoed by the press once a week, they are a national disgrace, and behind the age in every respect; their managers complacently scorning, under the shade of monopoly, all the well-established improvements of recent years, or, perhaps, judging it not politic to expose, by the introduction of improvements, the inferiority of their antiquated fleet. It is an undeniable fact,

that, whilst enormous advances have been made in other quarters in the art of steam navigation, the Cunard fleet do not contain any one item of improvement on the old pioneer, the "Great Western," constructed thirteen years ago, with the exception that their recently built vessels are larger.

A packet for the West of Ireland station ought to be of not less than 800-horse power, adapted for the conveyance of intelligence and passengers *exclusively;* no larger than is requisite for obtaining a good form, and for carrying well the engines, and the fuel to be consumed in spanning the 2,200 mile ferry. Goods must go in separate vessels—viz., in auxiliary screw merchant ships. The small end of the wedge to bring forward the pretensions of the Irish station, must be a highflyer. The voyage would occupy only five or six days. It is one of those things which are impossible, simply because it is thought to be so, but for no other reason; the only difficulty is to create a belief in its possibility. If inquiry could only be aroused, the result would follow. Perhaps inquiry may be aroused, by specifying a *few* of the leading elements of improvement within reach.

By discarding engines of the antiquated construction of those now employed in all the trans-atlantic steamers, and which are long since discarded in every well-appointed service, that of Government included, the weight of 800 horse-power engines can be diminished 360 tons.*

This involves no untried novelty; neither does lightness involve slightness; on the contrary, the parts may be stronger, the lightness being obtained by simplicity.—(See *Mechanics' Magazine* of 21st Sept.) H.M.S. "Retribution," "Sphynx," "Furious," and a great many others, afford examples of improved engines.

By building the vessel of iron, or else—if a wooden vessel be preferred—of diagonal plank for the skin, and adequate timbers, &c., on a plan somewhat similar to what is extensively used in H.M. Navy, as exhibited in the 'Niger,' 'Basilisk,' 'Porcupine,' H.M. Yacht, and various packets, a further saving of weight may be effected, with equal strength, of at least 400 tons.

By carrying no cargo, further weight is dispensed with, of, say..... 400 tons.

By starting from the West of Ireland with a fast vessel, instead of from Liverpool with a slow one, several days' supply of coal may be dispensed with, to the extent of, say, at least.... 400 tons.*

Diminution of weight to be carried by proposed dispatch vessels, as compared with present trans-atlantic steamers, at least.....1560 tons.

Now, one of the Cunard steamers of 800-horse power, as they start from Liverpool for New York, displaces, or weighs, considerably more than 3,000 tons. Abstract 1.560 tons of *lumber* from this, the power of 800-horse being still retained, and see what an improved form, improved seaworthiness, and *tremendous* increase of speed, with the diminished resistance, is to be obtained. The foregoing is almost incredible, but fact is sometimes stranger than fiction; and this is fact. I purposely abstain from incumbering these hints with details, and allusions to minor improvements.

The cost of such a vessel, capable of making 12 voyages, or 24 passages per annum, between Ireland and Halifax, would be £70,000 to £80,000, or perhaps something more.

No existing vessel could, however, even if relieved of cargo and coals, exhibit the merits of the Atlantic ferry. None of them are adapted, *in any respect*, for high speed. Their forms, and proportion of paddles, and many things, are unsuitable. To expect them, under even favorable circumstances, to have speed, would be equivalent to expecting a dray horse, even if indulged with feather weight, to keep pace with a race horse—which, of course, he could not do.

It may occur to some people, that such a sharp vessel as is here hinted at may be objectionable at sea, but such a notion is erroneous; a well-constructed sharp vessel being, in all respects, better at sea than a full one, provided that the weights are kept out of the extremities and properly placed, and *provided that the total weight to be carried is not disproportioned to the buoyancy of the vessel.*

The importance of a short ferry, in order to obtain the combination of sharpness of form, with great steam power and adequate buoyancy, need not be further insisted upon.

I shall be glad if any hint to be derived from a perusal of this paper prove serviceable to the advocates of an Irish Packet Station, and its corollaries, the Halifax and Quebec, and Halifax and Portland Railways.

Your obedient servant,

"1850," NOT "1838."

*Instead of *absolutely* reducing the weights to this extent, it might, in practice, be preferred to increase the effective power; but whatever might be the determination in that respect, does not *substantially* affect the correctness or force of these figures. The adoption of the *established* modern mechanism alluded to would leave it optional with the constructor in what degree he should diminish resistance, or obtain its equivalent in augmented power.

It may be well here to observe, that the hackneyed boast of the patrons of the Cunard slow coaches, that "*they are sure, and seldom break down,*" thereby insinuating that modern improvements involve a risk of breaking down, is based on an assumption entirely gratuitous. *Candid enquiry* will satisfy any one, not wilfully blind, that such packets as are here advocated on modern principles, would contain no elements of fragility.

To Contractors.

ENGINEER'S OFFICE CENTRAL OHIO R. R.,
Zanesville, March 20, 1851.

SEALED PROPOSALS for the Masonry of a Railroad Bridge across the Muskingum River at Zanesville, will be received at this office until the 15th of May next.

Also for the Iron or Wooden Superstructure of said Bridge, and for draw bridge across the Canal.

Plans and specifications furnished on the 1st of May next. Bidders may furnish their own plans and specifications, if filed at this office prior to that day.

By order of the Board.

ROBERT MAC LEOD,
Chief Engineer.

Notice to Contractors.

Virginia Central Railroad.

SEALED PROPOSALS will be received at the Engineer's Office of the Virginia Central Railroad, Charlottesville, on the 7th of May, 1851, for the Grading, Masonry and Brickwork of that portion of the line extending from Woodville to Blair Park, a distance of nine miles. Drawings and Specifications of the work may be seen from the 5th to the 7th of May inclusive. The best of references and an energetic prosecution of the work will be required.

Contractors are requested to state what work they are engaged on and when it will be completed. The directors reserve the right to accept or reject proposals, as they consider the interests of the company require. The names in full of all the parties must be given in the proposal.

By order of the President and Directors.

T. COLDEN RUGGLES,
Chief Engineer.

Charlottesville, April 8th, 1851.

ENGINEERS.

Atkinson, T. C.,
Mining and Civil Engineer,
Orange and Alexandria Railroad, Alexandria, Va.

Clement, Wm. H.,
Little Miami Railroad, Cincinnati, Ohio.

Cozzens, W, H.,
Engineer and Surveyor, St. Louis, Mo.

Alfred W. Craven,
Chief Engineer Croton Aqueduct, New York.

Floyd-Jones, Charles,
Alton and Sangamon Railroad, Alton, Illinois.

Gay, Edward F.,
Columbia and Philadelphia Railroad, Philadelphia Pa.

Gilbert, Wm. B.,
Rutland and Burlington Railroad, Rutland, Vt.

Gzowski, Mr.,
St. Lawrence & Atlantic Railroad, Montreal, Canada.

Grant, James H.,
Nashville and Chattanooga R. R., Nashville, Tenn.

S. W. Hill,
Mining Engineer and Surveyor, Eagle River, Lake Superior.

Holcomb, F. P.
Southwestern Railroad, Macon, Ga.

Latrobe, B. H.,
Baltimore and Ohio Railroad, Baltimore, Md.

Miller, J. F.,
Buffalo and Conhocton Valley Railroad, Bath, N. Y.

Morris, Elwood,
Schuylkill Navigation, Schuylkill Haven, Pa.

Nott, Samuel,
Lawrence and Manchester Railroad, Boston.

Osborne, Richard B.,
Civil Engineer, Philadelphia.

Prichard, M. B.,
East Tennessee and Georgia R. R., Cleveland, Tenn.

W. Milnor Roberts,
Bellefontaine and Indiana Railroad, Marion, Ohio.

Roberts, Solomon W.,
Ohio and Pennsylvania Railroad, Pittsburgh, Pa.

Sanford, C. O.,
South Side Railroad, Virginia.

Schlatter, Charles L.,
Northern Railroad (Ogdensburg), Malone, N. Y.

Steele, J. Dutton,
Pottstown, Pa.

Trautwine, John C.,
Civil Engineer and Architect, Philadelphia.

Tinkham, A. W.,
United States Fort, Bucksport, Me.

Troost, Lewis,
Alabama and Tennessee Railroad, Selma, Ala.

Whipple, S.,
Civil Engineer and Bridge Builder, Utica, N. Y.

HOTELS.

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BALTIMORE.

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BUFFALO, N. Y.
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This Extensive Establishment, erected expressly for a Hotel, with every regard to comfort and convenience, is situated in the centre and most fashionable part of the city, and but a few minutes' walk from the Railroad Depots and Steamboat Landings.
The House has lately undergone a thorough repair, embracing many valuable improvements, and will accommodate 250 Guests. BARNUM & CO.

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IMPORTER of Sheffield and Birmingham Goods. Also, Agent for the Manufacture of Telegraph Wire. 218 PEARL ST., NEW YORK.

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STATE ASSAYER, late Geologist to Maine, Rhode Island, New Hampshire, and the United States, offers his services to his friends and the public in making any Chemical, Mineralogical or Geological researches that may be required for the improvement of Agriculture and the Manufacturing Arts. Particular attention will be paid to the exploration of mines and to assaying of ores of the metals.
State Assayer's office, 31 Somerset st.
Boston Sept. 3, 1850.

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AGENT FOR
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Manufacturers of Cast, Shear, German, Blister, and
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Of all descriptions, *Warranted* Good.
FILES.
Manufacturers of Machinists' Warranted Best Cast Steel *Files*, expressly for working upon Iron and Steel, made very heavy for recutting.
☞ A full Stock of *Steel* and *Files* at all times on hand. 6m4

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COMMISSION MERCHANTS
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July, 27, 1849.

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OF THE UNITED STATES NAVY YARD,
PENSACOLA, FLORIDA.,
PATENTEE OF THE
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Models of this Track, on the most improved plans, may be seen at the Engineer's office of the New York and Erie Railroad.

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Railway Cars & Omnibuses.
F. S. & S. A. MARTINE,
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ARE now receiving a large and complete assortment of Plain and Figured PLUSHES, of their own importation, which will be sold at the lowest market price, viz: Crimson, Maroon, Scarlet, Green, Blue, Purple, etc.
ALSO—CURLED HAIR, the best manufactured in market.

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IS prepared to contract for furnishing at manufacturer's prices—
Railroad iron,
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Passenger and Freight Cars,
Car Wheels and Axles,
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Orders are invited; and all inquiries in relation to any of the above articles will receive immediate attention

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For Inclined Planes, Suspension Bridges, Standing Rigging, Mines, Cranes, Derrick, Tillers, &c., by
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THEODOLITES, TRANSIT COMPASSES, and Levels, with Fraunhoffers Munich Glasses, Surveyor's Compasses, Chains, Drawing Instruments, Barometers, etc., all of the best quality and workmanship, for sale at unusually low prices, by
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August 16, 1849. 1y23

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Best warranted Cast Steel—square, flat and octagon.
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Railroad Iron.

B. O. Railway Tires, Railway Wheels,
Scotch Pig Iron, Tin Plates and Banca Tin,
Muntzs Patent Metal Sheathing,
Baltimore Copper.

Contracts for Rails made on behalf of the manufacturers, for delivery at any ports in the United States, at fixed prices.

Bowling Tires and Tire Bars and Scotch Pigs imported to order.

Muntz's Ship-sheathing, and a general stock of Tin Plates and Banca Tin in store, and for sale by
RAYMOND & FULLERTON, 45 Cliff st.

IRONDALE PIG METAL, MANUFACTURED and for sale by the Bloomsburg Railroad Iron Co.
LINDLEY FISHER, Treasurer.
75 N. Water St., Philadelphia.

Car Wheel Iron.

THE celebrated cold blast "Conowingo" Pig Iron, for Railroad Wheels, Chilled Rolls, etc., for sale by E. PRATT & BROTHER,
Baltimore, Md.

Railroad Iron.

3,000 TONS C. L. MAKE 63½ lbs. per yard, now landing and to arrive.

Also contracts made for future delivery of above superior make English Iron.

300 Tons Banks Best Iron, Round, Square and Flat.
200 " English Bar " " " "
10 " 9-16 Square Iron for Railroad Spikes.

For sale in lots to suit purchasers by
DAVID W. WETMORE.
New York, March 26, 1850. 3m

Railroad Iron.

CONTRACTS made by the subscribers, agents for the manufacturers, for the delivery of Railway Iron, at any port in the United States, at fixed prices, and of quality tried and approved for many years, on the oldest railways in this country.

RAYMOND & FULLERTON, 45 Cliff st.

JOHNSON, CAMMELL & Co's Celebrated Cast Steel, AND ENGINEERING AND MACHINE FILES,

which for quality and adaptation to mechanical uses, have been proved superior to any in the United States. Every description of square, octagon, flat and round cast steel, sheet, shovel and railway spring steel, best double and single shear steel, German steel, flat and square, goat stamps, etc. Saw and file steel, and steel to order for any purposes, manufactured at their Cyclops Steel Works Sheffield.

JOHNSON, CAMMELL & CO.,
100 William St., New York.
November 23 1849.

Bowling Tire Bars.

40 Best Flange Bars 5½x2 inches, 11 feet long.
40 " 5½x2 " 7 feet 8 in. long.
40 " Flat " 6x2 " 11 feet long.
40 " 6x2 " 7 feet 8 in. long.

Now in store and for sale by
RAYMOND & FULLERTON,
45 Cliff street.

Wheel, Forge and Foundry Iron.

LOCUST GROVE Wheel Iron of great strength and superior chilling property.

Balt. Charcoal Forge Iron, from Patuxent, Curtis Creek and Gunpowder furnaces.

Elkridge Foundry Iron, of superior strength and softness. Anthracite and Charcoal Iron from Pennsylvania and Virginia. Gas and Water Pipes, Lamp Posts from Elkridge furnace.

LEMMON & GLENN,
$m9 62 Buchanan's Wharf, Baltimore.

Railroad Iron.

1650 Tons, weighing about 61 lbs. per yard, 40 tons, weighing about 52 lbs. per yard, and 825 tons, weighing about 53½ lbs. per yard, of the latest and most approved patterns of T rail, for sale by
BOORMAN, JOHNSTON & CO.,
119 Greenwich street.
New York, Aug. 26, 1850.

N.B.—B., J. & Co are also prepared to take contracts for English rails, delivered in any of the Atlantic ports of the United States.

Railroad Iron.

THE Undersigned, Agents for Manufacturers, are prepared to contract to deliver Rails of superior quality, and of any size or pattern, to any ports of discharge in the United States.

COLLINS, VOSE & CO.,
74 South St.
New York, June 1, 1850.

Tredegar Iron Works.

ROLLING MILL FOUNDRY AND MACHINE SHOPS. The undersigned continues to manufacture at his Works in this city (from best charcoal metal) Bar Iron of every description, embracing—Rounds and Squares, from ¼ to 5 inches diameter. Flats, from ¾ to 7 inches, all thicknesses. Bands and Scrolls, all sizes. Boiler plate and Plough Iron. Railroad and Locomotive Axles and Tires. Locomotive Frames, Spikes and Plates. Hoops, Ovals, Half Ovals, Half Rounds, Angle, T, L, and indeed every description of Iron usually manufactured, all of which he warrants to be equal to any made in this country. He also manufactures at his Foundry and Machine Shops all descriptions of Railroad Work, say, Locomotives, Railroad Wheels and Axles complete and ready for the road, Railroad Chairs, etc. Also, Marine and Stationary Engines all sizes, Sugar mills and Engines, Horse mills, and every kind of Machinery usually required for the operations of the country. He has paid particular attention to getting up machinery, etc., for Gold Mine operations, and those in want of such work might find it to their advantage to give him a call. J. R. ANDERSON.
Richmond, Va., Sept. 10, 1850.

CUT NAILS OF BEST QUALITY, BAR IRON (including Flat Rails) manufactured and for sale by FISHER, MORGAN & CO.,
75 N. Water St., Philadelphia.

Car Wheel Iron.

100 Tons "Columbia" No. 2 Cold Blast Charcoal Iron.
300 Tons "Salisbury" No. 1, do. do.
For sale by CHARLES T. GILBERT,
No. 80 Broad st.
New York, Sept. 21, 1850.

Railroad Spikes.

THE subscribers are prepared to make and execute contracts for Railroad Spikes of a superior quality, manufactured by the New Jersey Iron Company, at Boonton. DUDLEY B. FULLER & CO.
139 Greenwich st, corner of Cedar.

S. S. Keyser & Co., IRON WAREHOUSE,

Corner of South and Pratt Streets,
BALTIMORE, MD.

Selling Agents for the Rough and Ready Bar Iron and Elk Boiler and Flue Iron Rolling Mills, Sarah and Taylor Furnaces, and Wrightsville Hollow Ware Foundry, and Dealers in Bar and Sheet Iron, and Cast, Sheer, German, Blister, Spring and Electerised Steel, etc., etc.

Tubes.

The undersigned are in direct communication with the *Birmingham Patent Lap Welded Iron Tube Company*, for the sale of their very excellent and superior Boiler and Gas Tubes in large or small quantities.—These Tubes are sold very extensively in England and on the continent of Europe are sold exclusively by
WM. BIRD & CO.,
Iron and Tinplate Merchants,
44 Wall st., New York
5 Martin's Lane, City, London,
and 140 Buchanan st., Glasgow.

Railroad Spikes, Boiler Rivets, etc.

THE Subscribers, Agents for the sale of James S. Spencer's, Jr., Railroad and Boat Spikes, Boiler Rivets, and Wrought Iron Chairs for Railroads, made at his Works near this city, will execute all orders with promptness, despatch, and of the best quality.

ALSO IMPORTERS of English refined and Merchant bar Iron; Extra refined Car and Locomotive Axles (from 3½ to 6½ inches in diameter); B. O. Locomotive Tire (welded by Baldwin). Also, supply Boiler and Flue Iron cut to pattern or otherwise.—Spring, Shear, and Cast Steel, etc., etc., etc.

T. & E. GEORGE.
Philadelphia, November 14, 1850.

Railroad Iron.

THE UNDERSIGNED, HAVING made arrangements abroad, are prepared to contract for the delivery of Foreign rails, of approved brands upon the most favorable terms.

They will also make contracts for American rails, made at their Trenton works, from Andover Iron, in whole or in part, as may be agreed upon.

They are prepared to furnish Telegraph, Spring and Market Wire; Braziers and Wire Rods; Rivets and Merchant Bars to order, all made exclusively from Andover Iron. The attention of parties who require iron of the *very best* quality for special purposes, is respectfully invited. COOPER & HEWITT,
17 Burling Slip, New York.
February 15, 1850.

Railroad Iron.

THE Undersigned, Agents for Manufacturers, are prepared to contract for the delivery of English, Welsh and Scotch Rails, of any pattern and weight, also for every description of English, Welsh, Scotch, and Swedish Iron, Railway Chairs and Spikes, Rivets, Bolts, Nuts, Washers, Chain Cables, Anchors, Tin Plates, German Spelter, Iron Castings, and every description of Machinery.

WILLIAM BIRD & CO.,
Iron and Tin Plate Merchants,
44 Wall st., New York.
And at 5 Martin's Lane, City, London,
and 140 Buchanan st. Glasgow.
July 27th, 1850.

Railroad Iron.

THE "Montour Iron Company" is prepared to execute orders for Rails of the usual patterns and weights, and of any required length not exceeding 30 feet per rail. Apply at the office of the Company,
No. 73 South 4th st., Philadelphia,
Or to the Agents,
CHOUTEAU, MERLE & SANFORD,
NO. 51 New st., New York.
September, 1850.

Railroad Iron.

THE MOUNT SAVAGE IRON WORKS, Alleghany county, Maryland, having recently passed into the hands of new proprietors, are now prepared, with increased facilities, to execute orders for any of the various patterns of Railroad Iron. Communications addressed to either of the subscribers will have prompt attention. J. F. WINSLOW, *President*
Troy, N.Y.
ERASTUS CORNING, Albany
WARREN DELANO, Jr., N.Y
JOHN M. FORBES, Boston.
ENOCH PRATT, Baltimore, Md
November 6, 1848.

Railroad Iron.

THE SUBSCRIBERS ARE PREPARED TO take orders for Railroad Iron to be made at their Phœnix Iron Works, situated on the Schuylkill River, near this city, and at their Safe Harbor Iron Works, situated in Lancaster County, on the Susquehannah river; which two establishments are now turning out upwards of 1800 tons of finished rails per month.

Companies desirous of contracting will be promptly supplied with rails of any required pattern, and of the very best quality.

REEVES, BUCK & CO.
45 North Water St. Philadelphia.
March 15, 1849.

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM ONE AND A QUARTER TO SEVEN INCHES IN DIAMETER.

THE ONLY Tubes of the same quality and manufacture as those so extensively used in England Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.
THOMAS PROSSER & SON, Patentees,
28 Platt street, New York.

Railroad Iron.

THE UNDERSIGNED ARE PREPARED TO contract for the delivery of English Railroad Iron of favorite brands, during the Spring. They also receive orders for the importation of Pig, Bar, Sheet, etc. Iron. THOMAS B. SANDS & CO.,
73 New street,
February 3, 1849. New York.

Glendon Refined Iron.

Round Iron, Band Iron, Hoop Iron,
Square " Flat " Scroll "
Axles, Locomotive Tyres,
Manufactured at the Glendon Mills, East Boston, for sale by GEORGE GARDNER & CO.,
5 Liberty Square, Boston, Mass.
Sept. 15, 1849. 3m37

PATENT HAMMERED RAILROAD, SHIP & BOAT SPIKES. — The Albany Iron Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes from 2 to 12 inches in length, and of any form of head From the excellence of the material always used in their manufacture, and their very general use for rail roads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscribers at the works will be promptly executed.
JOHN F. WINSLOW, *Agent.*
Albany Iron and Nail Works, Troy, N. Y.
The above Spikes may be had at factory prices, of Erastus Corning & Co Albany; Merritt, & Co., New York; E. Pratt & Brother, Baltimore, Md.

AMERICAN PIG IRON.

"POUGHKEEPSIE" brand, Dutchess Co., N.Y.
"GLENDON" brand, Lehigh county, Pa.
Orders for the above two well known brands will be received, and promptly executed, by
J. & L. TUCKERMAN,
69 West St., New York.

Faggotted Car and Engine Axles

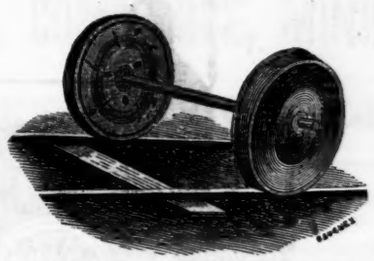
FORGED by RANSTEAD, DEARBORN & Co.,
Boston, Mass.
These Axles enjoy the highest repulation for excellence, *and are all warranted.*

Boston Locomotive Works,

—Late Hinkley & Drury—
No. 380 Harrison Avenue,
BOSTON.

Locomotive and Stationary Steam Engines; Boilers; Iron, Brass, Copper and Composition Castings; Coppersmith's Work, and all kinds of Railroad Machinery furnished at short notice.

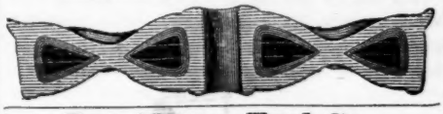
ALSO



Van Kuran's Improved Rail-Road Wheel,

Patented May 1, 1849. Manufactured under the personal superintendence of the Patentee, as above.

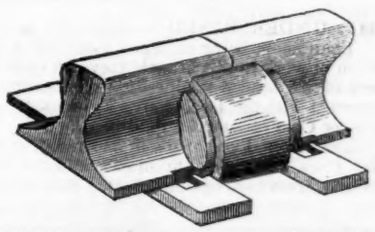
Orders for any quantity of wheels executed with dispatch, and wheels and axles fitted in the very best manner and at the lowest rates. Address
DANIEL F. CHILD, Treasurer, Boston.



Providence Tool Co.,

MANUFACTURERS OF
Plane Irons, Tooth Irons, Soft Moulding and Rabbet Irons, Cornice Irons, Plow Bitts, and Planing Machine Knives:
NUTS, WASHERS AND BOLTS.
—ALSO—
PLATE HINGES AND PICK AXES.
They are prepared to execute orders for all descriptions of Cold Punching and Job Work.
WM. FIELD, Agent. RUFUS WATERMAN, Treas.
PROVIDENCE, R. I.

Railroad Iron,
SPIKES, AND
WROUGHT IRON CHAIRS.



THE Undersigned, Agent for Manufacturers, is authorised to contract for Welsh *Railroad Iron* of the best quality, and deliverable at any port on favorable terms, also *Spikes and Wrought Iron Chairs*, made from the best iron, and of any pattern and weight. The new Wrought Iron Chair, with the introduction of a "Key," as per the annexed plan, will be found a great improvement on the old pattern.

Boiler Plates of superior quality, perfect regularity in the squaring and thickness, and made with great care.
Samples can be seen at the office, No. 20 Beaver st.
CHARLES ILLIUS.

TO RAILROAD COMPANIES, CAR MANUFACTURERS, etc.

THE Undersigned hereby gives public notice, that the Commissioner of Patents, pursuant to his decision in relation thereto, on the 8th day of October, 1850, issued to him a Patent for the sole right to manufacture, and exclusive use of the INDIA RUBBER CAR SPRING, on account of priority of invention of said Spring. F. M. RAY
New York, Oct. 23, 1850.

Iron Trade of Pennsylvania.

DOCUMENTS and Statistics relating to the Manufacture of Iron in the State of Pennsylvania—giving a history of the manufacture from its commencement to this date, illustrated by diagrams. Also tables giving the address and capacity of every establishment in the State. Prepared by direction of the late convention of the trade held in Philadelphia. For sale by
LINDSAY & BLACKISTON, Philadelphia.
FIELDING LUCUS, Jr., Baltimore.
HENRY G. NICHOLS, 79 Water st., N. Y.
or at this office—price $1 00.
It will be sent by mail to any order enclosing the money, and post paid.

Ulster Iron.

THE ULSTER IRON WORKS, Saugerties, N. Y., continue in full operation. Orders for *round, square, flat, band, hoop and scroll iron*, will be received and promptly executed by
J. & L. TUCKERMAN,
69 West St., New York.

Lovegrove's Patent Cast Iron Water and Gas Pipes.

THE Subscriber, the Inventor and Patentee of the Centrifugal mode of giving form to metallic substances while in a molten state, is preparing to make Cast Iron Water and Gas Pipes, of any dimensions, at prices much lower than they can be made in the old manner, and the pipes warranted to stand a pressure of three hundred pounds to the square inch, and to be soft enough to drill. Steam Engines and all kinds of machinery. Cast Iron Doors and Frames, and Mill Castings of every description, made to order.
THOMAS J. LOVEGROVE,
Machinist and Founder,
West Falls Avenue, below Pratt st., Baltimore.

American Railroad Iron.

1000 Tons, weighing 50 lbs, per yard, manufactured by Reeves, Abbott & Co., at the Safe Harbor Iron Works, and now lying in yard at Brooklyn, for sale by
CHOUTEAU, MERLE & SANFORD,
No. 51 New street.

Spikes, Spikes, Spikes.

ANY person wishing a simple and effective Spike Machine, or a number of them, may be supplie by addressing J. W. FLACK, Troy, N. Y.
or, MOORE HARDAWAY, Richmond, Va.
March 6. 1850.

Railroad Iron.

2000 Tons, weighing 58 pounds per lineal yard, of the most approved pattern of T rails, in store and to arrive, for sale by
COLLINS, VOSE & CO.,
74 South St.
New York, June 1, 1850.

American Cast Steel.

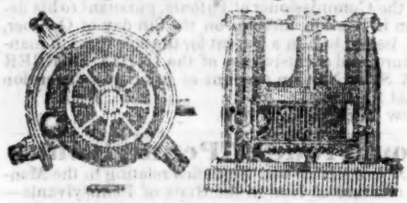
THE ADIRONDAC STEEL MANUFACTURING CO. is now producing, from American iron, at their works at Jersey City, N.J., Cast Steel of extraordinary quality, and is prepared to supply orders for the same at prices below that of the imported article of like quality. Consumers will find it to their interest to give this a trial. Orders for all sizes of hammered cast steel, directed as above, will meet with prompt attention.
May 28, 1849.

Railway Iron.

THE Subscribers will contract to deliver, in the course of the ensuing Spring and Summer, the best English Rails, made by a particular specification, and of any pattern required.
DAVIS, BROOKS & CO.,
68 Broad st.
On hand for sale, English rails of 58 lbs. to the yard, made by particular specifications.
January 10, 1851. 2m

MACHINERY.

Henry Burden's Patent Revolving Shingling Machine.



THE Subscriber having recently purchased the right of this machine for the United States, now offers to make transfers of the right to run said machine, or sell to those who may be desirous to purchase the right for one or more of the States.

This machine is now in successful operation in ten or twelve iron works in and about the vicinity of Pittsburgh, also at Phœnixville and Reading, Pa., Covington Iron Works, Md., Troy Rolling Mills, and Troy Iron and Nail Factory, Troy, N. Y., where it has given universal satisfaction.

Its advantages over the ordinary Forge Hammer are numerous: considerable saving in first cost; saving in power; the entire saving of shingler's, or hammersman's wages, as no attendance whatever is necessary, it being entirely self-acting; saving in time from the quantity of work done, as one machine is capable of working the iron from sixty puddling furnaces; saving of waste, as nothing but the scoria is thrown off, and that most effectually; saving of staffs, as none are used or required. The time required to furnish a bloom being only about six seconds, the scoria has no time to set, consequently is got rid of much easier than when allowed to congeal as under the hammer. The iron being discharged from the machine so hot, rolls better and is much easier on the rollers and machinery. The bars roll sounder, and are much better finished. The subscriber feels confident that persons who will examine for themselves the machinery in operation, will find it possesses more advantages than have been enumerated. For further particulars address the subscriber at Troy, N. Y. P. A. BURDEN.

Railroad Spikes and Wrought Iron Fastenings.

THE TROY IRON AND NAIL FACTORY, exclusive owner of all Henry Burden's Patented Machinery *for making Spikes*, have facilities for manufacturing large quantities upon short notice, and of a quality unsurpassed.

Wrought Iron Chairs, Clamps, Keys and Bolts for Railroad fastenings, also made to order. A full assortment of Ship and Boat Spikes always on hand.

All orders addressed to the Agent at the Factory will receive immediate attention.

P. A. BURDEN, *Agent*,
Troy Iron and Nail Factory, Troy, N. Y.

CHILLED RAILROAD WHEELS.—THE UNdersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of spokes or discs, by a new process which prevents all strain on the metal, such as is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St., below 13th,
Philadelphia, Pa.

Brown's Old Established SCALE WARE HOUSE,

NO. 234 WATER ST., NEW YORK.

THE Subscriber, Practical Manufacturer of Scales of every description, respectfully asks the attention of Railroad Companies to his Improved Wrought Iron Railroad Track and Depot Scales which for strength, durability, accuracy, convenience in weighing, and beauty of workmanship, are not surpassed by any others in this country.

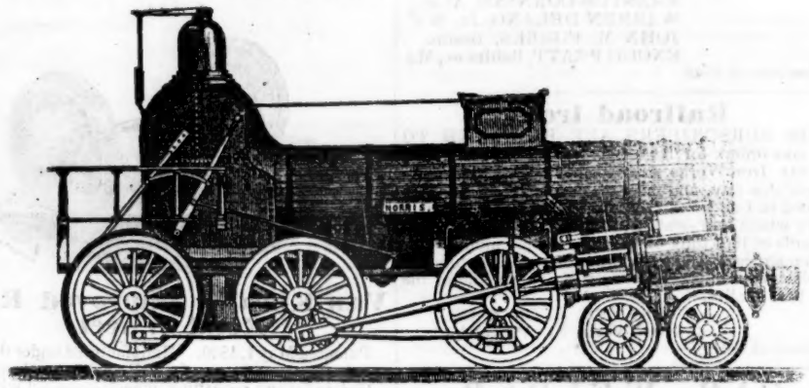
He is aware that this is rather a bold assertion for him to make, yet he can say with confidence that they have but to be tried to give them precedence over all others. J. L. BROWN.

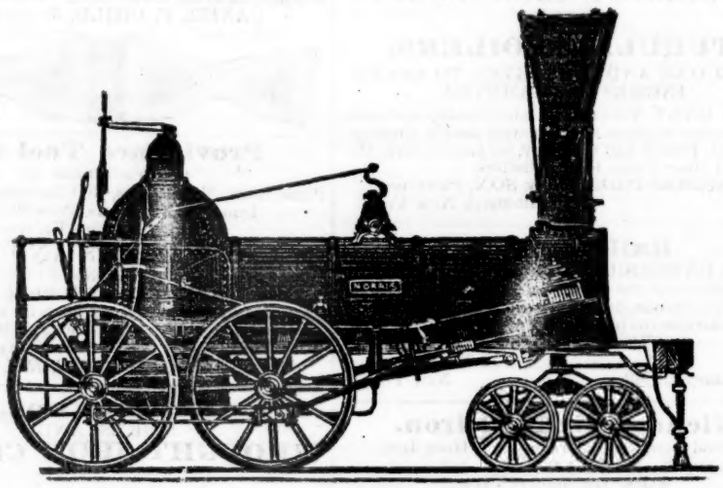
☞ Bank Scales made to order, and all Scales of his make Warranted in every particular.

Reference given if required

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Wrought Iron Tyres made of any required size—the exact diameter of the Wheel Centre, being given, the Tires are made to fit on same without the necessity of turning out inside.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS, BROTHERS

PATENT MACHINE MADE HORSE-SHOES.

The Troy Iron and Nail Factory have always on hand a general asssortment of Horse Shoes, made from Refined American Iron.

Four sizes being made, it will be well for those ordering to remember that the size of the shoe increases as the numbers—No. 1 being the smallest. P. A. BURDEN, *Agent*,
Troy Iron and Nail Factory, Troy, N. Y.

Etna Safety Fuse.

THIS superior article for igniting the charge in wet or dry blasting, made with DUPONT'S best powder, is kept for sale at the office and depot of

REYNOLDS & BROTHER,
☞ *Sole Manufacturers*, ☜
No. 85 Liberty St.
NEW YORK.

And in the principal cities and towns in the U. States.

☞ The Premium of the AMERICAN INSTITUTE was awarded to the *Etna Safety Fuse* at the late Fair held in this city.

November 3, 1849. 1y

UNION WORKS,

North street, opposite the Railroad Depot,
BALTIMORE.

Poole & Hunt,

Manufacturers of Steam Engines and Mill Gearing, Machinists' Tools, and all kinds of heavy and light Machinery.

Also put up *Arrangements of Wrought Iron Pipes* for heating buildings and conveying steam or water.

Castings of every kind furnished at short notice.

Every exertion will be made to insure the satisfaction of customers.

Patent Machine Picket Fence

SIX DIFFERENT STYLES of this fence are now made by patent machinery; and is by far the most economical fence for *Railroads*, *Farms*, *Yards*, etc., ever yet offered to the public, costing only from 4 to 30 cents per foot, according to pattern; and is so put up as to be shipped at a trifling expense. Full particulars will be furnished, by addressing the subscriber, to whom all orders should be sent.

N. STRATTON, Troy, N.Y.